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TWO ASPECTS OF THE FREE EDUCATION BILL.

I.

IN considering the attitude of the friends of denominational schools towards this Bill, two things must be borne steadily in mind. The Bill is introduced on political, not educational, grounds, and it has received the support of the two great political parties in the State, so that opposition to it has seemed hopeless. The other point to be remembered is that a considerable number of members of one of the political parties has avowed its determination to secure free education in order to crush out denominational schools, whilst the other political party has throughout asserted its unflinching resolve to introduce a measure for free education that shall in no way injure denominational schools.

Notwithstanding this assurance, the supporters of denominational schools have shown no wish for their political friends to introduce a measure of the kind. Many of them, especially those living in the north of England, have been so possessed with the idea that it is not possible to frame a Bill for free education which will not be injurious to their schools, that I believe if their votes were taken to-day, with the Government measure before them, the majority would not be found on the side of the Bill. Those, therefore, who claim increased popular control over the schools because of the larger sum payable to them out of public funds must be reminded that the additional subsidy from that source has been forced upon them, and that it only replaces an equal, or still larger,

amount that had been derived from another quarter which they have been compelled to surrender. The gift of free education is a boon to the parents, not to the schools, and therefore no claim for a larger amount of popular control over their management can arise with any justice on this account.

The Bill itself is a very simple one. Its object is to place a free school within the reach of every child whose parents desire it to be educated without payment. To effect this it promises a subsidy of 10s. per annum for each child in average attendance, to be paid quarterly. This payment represents about 8s. for each child attending the school; for upon the average each child attends only four out of the five days when the school is open, and, of course, has to pay the same fee as if it attended every day. This is equivalent to about 2¼d. a week. Every school, therefore, that charges less than that sum would gain, every school that charges more would lose, by accepting the Government offer. The effect of this upon Church schools would be that there would be a profit upon rather more than 900,000 children's fees, and a loss upon somewhat more than those of three-quarters of a million, the loss varying from three farthings a week to 6¾d. The Roman Catholics would gain proportionately to a greater extent; whilst the Wesleyans would be in a worse condition, unless they charge a fee to supplement the Government grant, and the other undenominational schools would suffer, but not to the same extent as the Wesleyans. The Board schools would profit to an extent even greater than the Roman Catholics.

Beside freeing a large proportion of the schools, the Bill proposes to make the same allowance of 10s. per annum to schools charging a sum beyond that amount in diminution of the fee that was payable at the beginning of the year. To some schools this will be a boon, whilst many others will find it impracticable to make an additional charge. Speaking generally, the town schools in the south of England will be able to profit by this arrangement, whilst those in the north are expected to suffer. There are two reasons given to account for this. The fees payable in the north of England have been much higher than those in the south, as the scale of wages has been at a much more liberal rate;

and beside this, the inhabitants of that part of the country are largely engaged in works of the same local character, or in trades connected with them, and so are substantially on the same social level. This would be thoroughly the case in mining districts, or in towns like Manchester or Leeds, where there is a great staple manufacture. But in the south of England, and especially in London, a gulf separates small shopkeepers and artisans from labourers. There are few, if any, social relations between them, and the artisan would resent being obliged to send his children to the same school as that which was frequented by the children of labourers and others of a still lower class. Consequently there is in London and in many south county towns a considerable demand for schools paying fees from 4d. to 9d. a week, and I have no doubt that when free schools are introduced the demand for such schools will increase rather than diminish. In the northern counties, where the great majority are able and willing to pay a fairly liberal fee, so long as such a fee is charged, comparatively few would think it worth their while to pay any fee if there was a free school within reach. This is the persuasion of managers of schools in that part of the country, and as my knowledge is chiefly of schools in the south of England I am not in a position to confirm or refute their opinion. It may be worth while to mention that the other day I was talking on the subject to the active manager of several schools in the suburbs of London where a large proportion of the people are engaged in laundry work. He has under his care (along with other managers) schools charging 3d. and 1d. a week, and he assured me that they would not venture to accept the Government grant for the schools charging 3d. a week, as none of the parents would send their children to a school where they would have to mix with children of a lower class.

The Bill provides that schools erected in the future must all be free, unless special permission is obtained from the Education Department to charge fees. It also makes provision for creating School Boards, after a somewhat hasty fashion, to supply free schools where they are not furnished within a given term from the passing of the Bill, but it seems to afford no opportunity for private zeal to meet the want, as it certainly ought to do. The clause relating to

this is ill-drawn, and seems to give an advantage to School Boards which can scarcely be intended, and which, I trust, will be rectified when the Bill is in Committee, so that parents who value a religious education for their children may not be debarred of that inestimable blessing out of deference to the feelings of hatred towards the Established Church, which appears to possess many advocates of School Boards, or from political considerations.

There are omissions in the Bill which certainly ought to be made good, if it is to set the question at rest for any length of time. The limit of 17s. 6d. on the Government grant under existing circumstances is so manifestly unjust that it is surprising any fair-minded person can wish it to remain. The Education Code insists upon requirements that greatly increase the cost of sustaining schools, and then retains a limitation of the grant which was equitable a few years since, when that grant was much less than the sum it has reached, but is now inequitable as well as irritating. Then nothing can be less statesmanlike than to allow schools from which the managers cannot derive profit, but to support which considerable demands must be made upon their liberality, to pay local rates ; or for Board schools to be subjected to a similar impost. Beside these amendments there are others which I trust will be considered when the Bill is in Committee, so that the northern schools may not suffer so severely as they would do under the Bill as it now stands. Freeing the schools from the payment of fees should be looked upon as the Government buying up the fees now payable. For this they should pay a moderately fair price, as the charge was made at the outset with the full sanction of the Educational authorities, and has been carried on ever since with their complete approbation.

So much for the Bill itself ; and now for a word in reply to the two chief objections urged by the strenuous opponents of Voluntary schools. The first is that when schools receive so much larger sums from the public Exchequer, there ought to be an increased amount of public control. This is a euphemistic way of crying out against the religious teaching given in Denominational, and especially in Church, schools. Religion marks the dividing line. It is to secure a definitely religious education for the young that the

supporters of Denominational schools are willing to make sacrifices; it is to make this impossible that their opponents cry out for popular control. That they do not really want popular control in its full and complete sense is clear to everyone who understands the whole bearings of the case; if they did, they would clamour for the repeal of the Cowper Temple clause, which seriously interferes with the exercise of popular control over the religious teaching that can be given in schools professedly under its management. It permits such teaching to be imparted in the way that Nonconformists approve, and Churchmen and others dislike, and it places no bar on its being omitted altogether in order to gratify secularists and other unbelievers, but it forbids religion to be definitely taught in the manner that has always been held to be most effective, and by inference it is popularly supposed to forbid it altogether. Let us, however, examine the claim for more external control on its merits. The Department has practically control over the buildings used for Voluntary schools, over the qualifications of the teachers and the number to be employed in them, the subjects to be taught, the amount of improvement to be required of the scholars, the age at which they come to school and leave it, the hours at which direct religion may be given, and the time-table which is to regulate the length of time to be given to each subject. All that is left for the managers to do beyond seeing that the requirements of the Department are complied with is to select teachers out of those certified as perfectly qualified by that august authority and to determine the religious teaching to be given, and to find the money required for carrying on the school. But because the managers recognise that those who really believe the creed they profess are more likely to teach it effectively than those who do not, and that religious teachers are more likely to influence their scholars for good than those who are not, and sometimes permit a teacher to earn a few pounds by acting as organist or leading the church choir or doing other church work, the souls of those hostile to the Church are so exercised that they will be content with nothing that does not promise to make such things impossible. But there is a second serious objection raised. There are some schools which will gain by the Government proposal, and

the 10s. allotted for the school payment of each child will be more than it now pays. Undoubtedly such will be the case with some country, and a few town, schools; and the fear is that the present voluntary subscribers may possibly diminish their subscriptions in consequence. I do not think there is any fear of this. People are apt to judge others by themselves, and probably this is the case with those who raise the objection. I am more inclined to judge of what people will do in the future by what they have done in the past. I find that the average voluntary subscriptions for the support of each child in the Church schools in the rural parishes of Somersetshire is 12s. 11d. I have no reason to suppose that this is more than has to be furnished by Church people for the village schools they support all over England. People who Voluntarily tax themselves to this extent are not likely to allow their schools to become inefficient to save their own pockets. And it must be remembered that it would be well nigh impossible to introduce such a clause as is desired into the Bill which could not be made an instrument of torture to Voluntary schools in the hands of an unscrupulous head of the Education Department. In most towns the means of contribution to voluntary schools are crippled by the enormous sums which their friends have to pay in rates for the erection and maintenance of schools of which they altogether disapprove, and whose moral and religious influence they distrust. These schools are practically Nonconformist or secular schools, as I have already pointed out.

If, therefore, religious liberty in the matter of education means that the consciences of Church people are to be respected as well as those of Nonconformists and Agnostics, it is obvious that the objections just dealt with are grossly unfair. By the Act of 1870 it seems to have been assumed that the consciences of parents and of ratepayers who held a definite faith were only to be respected to a very limited extent, and that limited extent many of the opponents of Voluntary schools are now desirous to get rid of.

If asked what I think of the Bill now before Parliament, I believe it to be an honest attempt to deal with a difficult matter. I very much regret that the question of free schools has been raised, as I believe the present system of paying school fees is on many

accounts better both for parents and children. Until the last few days I thought the Bill before Parliament offered a possible solution of the question that need not cripple Church schools, if the amendments I have named were secured. From what I have since heard I fear it will be difficult to amend it that it may not work great evil to the schools in the north of England.

ROBERT GREGORY,
Dean of St. Paul's.

II.

NOW that the Bill for freeing or partially freeing our schools is published, we can judge how far it fulfils the nominal object of assisting education, and how far it accomplishes the avowed intention of its promoters "to put the Voluntary schools in a position from which no future hostile majority could dislodge them."

The trouble we encounter in considering this matter arises partly from the fact that the Government and the party who are promoting this legislation make no secret of their opinion that free education is a bad thing, demoralising to parents and injurious to education. Mr. Goschen only the other day, when addressing a meeting of the Primrose League, openly admitted his continued objection to abolishing school fees, and avowedly based his support of the Bill on his desire to preserve denominational schools from the danger to which they would be subjected if the conduct of the question should fall into the hands of the Liberal party.

The Bill is therefore drawn in the interest primarily of the managers of schools; secondarily, of parents.

The nation is to give about £2,000,000 a year. But this £2,000,000 will only relieve parents of perhaps £1,700,000 worth of fees. The remaining £300,000 will constitute an additional endowment of school managers, and will be used as though it were local income to relieve them from any liability to reduction of their other Parliamentary grant.

As the Bill stands we have no security that the fees now abolished may not shortly be re-imposed. Section 3 enables the

Education Department from time to time to approve the re-imposition or augmentation of fees in a school, and does not make it compulsory that any fees so re-imposed or augmented shall be deducted from the Parliamentary grant which was paid in substitution of such fees. Thus a Government which evidently considers as its first duty the placing denominational schools in an impregnable position, and which for the sake of this object is willing to propose legislation described in the *Quarterly Review* as not conducive to the moral or social welfare of the country, has the power at once to permit the re-imposition of fees which have been abolished and the continuance of the Parliamentary grant which was voted for the purpose of their abolition.

Clearly one of the most imperative obligations on Parliament is to secure that no such power shall be granted to the Department, and that fees once abolished or reduced shall be abolished or reduced for ever.

It is admitted that the Bill gives a large augmentation of income to the small rural schools mainly under the control of the clergy of the Established Church.

Prebendary Roe, who is as competent a witness as any that exists, puts this new endowment at 4s. a head for the rural schools of Somerset. Sir William Hart Dyke has admitted that it is his duty to secure that this increased grant shall be used to improve education, not to relieve subscribers. A clause should be inserted in the Bill enacting that it should be the duty of the Department to do what Sir William Hart Dyke admits is its duty.

It was admitted by the Government on the introduction of the Bill, that every parent would have a right to demand free education for his child.

The Bill fails adequately to secure this right. In the first place, the interval of a year is to interpose between the passing of the Bill and the accruing of the right, and we are then relegated to the dilatory action of the Education Department before the demand can be satisfied.

The obvious intention here, too, is to give every facility to Voluntary managers to provide free education before a board is called into existence.

But the theory on which the Bill is based is that all who use the elementary schools of the country are entitled to free schools. There is no question of poverty nor of a humiliating differentiation of the scholars between those attending a free or an assisted school.

Every parent has a right not only to free schools but to efficient free schools. The Bill, therefore, should be amended so as to enact that there shall be a sufficient amount of thoroughly efficient and suitable free public school accommodation. As the Bill stands the worst schools in a district, bad in premises, bad in staff, scamped in their curriculum, unpopular in their management, may be proffered as a sufficient satisfaction of the popular demand. It should be provided that the free schools should be equal in all respects as to equipment, premises, staff, and curriculum to the other schools of the district before they can be accepted as a suitable provision, and failing such schools there should at once be formed a School Board for the purpose of establishing them.

Another point of serious importance is that the Bill should secure in fact what it professes to give in theory, namely, the right to attend school on payment of a moderate and reduced fee even where the school is not made absolutely free.

Hitherto Voluntary schools have been allowed an absolute discretion what fee they shall charge provided the average fee did not exceed 9d., and charges for books have been permitted even in excess of 9d. It has been admitted by the Department that they have refused to interfere even where a charge of 1s. was made to particular scholars. It is understood that this practice of the Department, so far as it relates to fees in excess of 9d., has been pronounced illegal and will have to be abandoned. But at any rate there is full liberty for managers to charge any fee up to 9d. a week, and the Vice-President of the Council stated in answer to a question in the House of Commons that so long as the fee levied in future did not on the average exceed the fee permitted under the Bill there would be no interference with the discretion now vested in the managers of charging what they please to any individual scholar. But bad as this principle was before, it will be far more intolerable now, for the Bill recognises the right of each parent to

free or cheapened schooling. If managers may say to the irregular or backward scholar or to the half-timer, or to any one else, the fee to you is 6d., the purpose of the Bill is frustrated. Those who do not know the way in which the Education Department is accustomed to circumvent Acts of Parliament and even to outwit the Treasury, would suppose that a Bill which enacts that the fee shall not exceed a certain amount for each child, meant that each child should pay a fee not exceeding a certain amount. But we are warned that the Bill means nothing of the sort, and that each child is liable to a demand far exceeding the legal fee so long as the demand is only made on so many as will not cause the total fee income to exceed the lawful amount. This power of charging a capricious fee is desired not for the direct augmentation of the school income, but for the purpose of getting rid of undesirable scholars. The Bill should certainly be amended by enacting that no fee in excess of the average fee recognised for the school shall be charged to any child. And, moreover, as the fee is henceforward to be regulated and fixed under a statutory obligation, the legal fee of the school should, in all cases, be conspicuously exhibited on a board to be permanently erected outside the school where all can see it.

One word as to those schools where the new Parliamentary grant will exceed the previous total income. It should be enacted that in all such cases the schools shall be made absolutely free to all scholars, irrespective of age, and that no extra charge for books or for any other purpose be permitted. It may be impossible to prevent these schools making a profit out of the new grant, but clearly they should not make a double profit out of the grant and out of the children.

Another statement by the Vice-President has been made which seems in conflict with the language of the Bill.

The Bill provides that in any school receiving the fee grant where the amount hitherto received in fees was not in excess of 10s. a year, no fee shall hereafter be charged. But the Vice-President stated that in giving effect to this enactment the separate departments of a school would be treated as separate schools. But a school of three departments, boys, girls, and infants, is one school.

It is under one set of managers, the building was passed as one when the plans were submitted, there is one form, one inspection, one cheque sent down in payment of the grant, one form of accounts to be submitted by the managers. It is absurd in such a case to say that the managers may get more than their fee income in one department and yet collect a residue of fees in the other. To take an instance, a school of six hundred scholars in average attendance, divided into two hundred boys, two hundred girls, and two hundred infants, might easily be receiving in fees 12s. a head from the boys, 10s. a head from the girls, and 7s. a head from the infants.

The Department would, under the Bill, pay to the school £300 in lieu of fees, which would have amounted to £290, thus giving a profit of £10 to the school. But, according to Sir William Hart Dyke, it is proposed in addition to allow the managers to collect 2s. a head, or £20, from the boys. Such a proposal seems as absurd as it would be dishonest, and had not the Vice-President stated that it was intended to be done, few would have believed it if an opponent of the Government had imputed such an intention to them. At any rate, the possibility of doing this should be prevented by a suitable amendment of the Bill.

There are many other points which need attention in the Bill, but these few have direct relation to its assumed purpose—that of substantially freeing our elementary schools in the interest of efficient education. Unless they are conceded it will be made clear that the Bill is drafted to give effect rather to the object of the promoters than to its ostensible title.

E. LYULPH STANLEY.

THE "SPIRITUAL ESSENCE" IN MAN.

"The question of questions for mankind—the problem which underlies all others, and is more deeply interesting than any other—is the ascertainment of the place which man occupies in nature and of his relation to the universe of things. Whence our race has come; what are the limits of our power over nature and of nature's power over us; to what goal we are tending, are the problems which present themselves anew and with undiminished interest to every man born into the world."—Professor Huxley's *Man's Place in Nature*, 1863.

THE battle on the relation of man to the lower animals no longer rages round his physical structure; it is transferred to his mental nature and development, with vast improvement in the tone and temper of the combatants. Professor Huxley, in commenting on the anathemas hurled against the wicked book quoted above, all the propositions in which are now taught in the text-books, remarked to the present writer, "What a droll world it is!" The prejudices which Darwin tells us, in his preface to the *Descent of Man*, he feared to create by embodying detailed application of his theory to man in his *Origin of Species*, are "dead as a door-nail." How the whole atmosphere has changed for the better is shown in the reception of *Lux Mundi* as contrasted with the war-dance of Convocation round *Essays and Reviews*, and the self-mutilation of Dr. Temple for his share in that book when he accepted the Bishopric of Exeter.

But the struggle against the application of the theory of evolution to man's intellectual and spiritual nature will be long and stubborn, the more so because in this matter the foes of evolution include some of its own household, men who have gone one mile with Darwin, but who refuse to go twain, heedless of the French

proverb that "he who says A must say B." Among the notablest of this hesitating and hindering company is Mr. Alfred Russel Wallace, whose self-effacement in the equal part which he played with Mr. Darwin as independent propounder of the theory of natural selection has won for him a respect which is as secure as the fame of his brother naturalist. Among lesser antagonists are Professor St. George Mivart and the late Dr. W. B. Carpenter. In his *Genesis of Species* St. George Mivart contends that "man's body was evolved from pre-existing material (symbolised by the term 'dust of the earth') and was therefore only derivatively created, *i.e.*, by the operation of secondary laws," but that, "his soul, on the other hand, was created in quite a different way . . . by the direct action of the Almighty (symbolised by the term 'breathing')" (p. 325). In his *Mental Physiology* Dr. Carpenter postulates an Ego or Will which presides over, without sharing in, the causally determined action of the other mental functions and their correlated bodily processes; "an entity which does not depend for its existence on any play of physical or vital forces, but which makes these forces subservient to its determinations." (p. 27.) Professor Mivart, as becomes a good Catholic, cites those distinguished biologists, St. Augustine and Cardinal Newman, in support of his theory of the special creation of the soul. Dr. Carpenter argues as becomes a good Unitarian.

It is not the attitude of men of science thus pledged to one or another form of the heterogeneous creeds of Christianity that, at first sight, troubles us so much as the attitude of a man like Mr. Wallace, who is a Darwinian of the Darwinians, in his contention on behalf of the overwhelming importance of natural selection over all other agencies in the production of new species. While other authorities hold that it is the *main* agent in the modification of life-forms, Mr. Wallace claims it as almost the *sole* agent. This is, he urges with apostolic ardour, the Darwinian faith, whole and undefiled, as opposed to the heresies to which, as he fell away from the earlier and sounder creed, Darwin himself lent too willing ear: heresies which minimise the agency of natural selection and make it secondary to that of other agents, as the direct action of external conditions, use and disuse, intelli-

gence and heredity. Consequently he runs full tilt against the so-called Neo-Lamarckian school, of which Messrs. Herbert Spencer and Patrick Geddes, Professors Cope and Karl Semper, are cited as representatives, the tendency of which, he complains, is to set up in the place of natural selection certain fundamental principles of variation or laws of growth which, it is urged, are the real originators of the several lines of development and of most of the variety of form and structure in the vegetable and animal kingdoms.

Mr. Wallace fully accepts—I quote from his recent delightfully-written book on *Darwinism*—"Darwin's conclusions as to the essential identity of man's bodily structure with that of the higher mammalia, and his descent from some ancestral form common to man and the anthropoid apes." He also admits, "at all events, provisionally, that the laws of variation and natural selection . . . may have brought about, first, that perfection of bodily structure in which he is so far above all other animals, and, in co-ordination with it, the larger and more developed brain by means of which he has been able to subject the whole animal and vegetable kingdoms to his service." But, although Mr. Wallace rejects the theory of man's special creation as "being entirely unsupported by facts, as well as in the highest degree improbable," he contends that it does not necessarily follow that "his mental nature, even though developed *pari passu* with his physical structure, has been developed by the same agencies." Then, by the introduction of a physical analogy which is no analogy at all, he suggests that the agent by which man was upraised into a kingdom apart bears like relation to natural selection as the glacial epoch bears to the ordinary agents of denudation and other changes in producing new effects which, though continuous with preceding effects, were not due to the same causes.

Applying this "argument" (drawn from natural causes), as Mr. Wallace names it, "to the case of man's intellectual and moral nature," he contends that such special faculties as the mathematical, musical, and artistic (is this faculty to be denied the nest-decorating bower bird?), and the high moral qualities which have given the martyr his constancy, the patriot his devotion, and the philanthro-

pist his unselfishness, are due to a "spiritual essence, or nature, superadded to the animal nature of man." We are not told at what stage in man's development this supernatural lymph was inserted.

Any perplexity that might arise at the line thus taken by Mr. Wallace vanishes at the remembrance that the author of the *Malay Archipelago* and *Island Life* has written a book on *Miracles and Modern Spiritualism* in defence of both. The explanation lies in duality of mind, which in one compartment ranks Mr. Wallace foremost among naturalists, and, in the other compartment, places him among those Brummagem supernaturalists, the Spiritualists. Of this duality men like Faraday, the ex-President of the Royal Society, and Sir William Dawson are prominent examples. And Mr. Wallace's ready endorsement of Dr. Weismann's theory of the non-inheritance of modification acquired by the individual during life is probably due to a twofold cause. First, each agrees in not referring special mental endowments to the exercise of the brain in the same specific direction. Not that they are at one in their explanations, since Dr. Weismann regards "talents" as a sort of by-product of the mind, while Mr. Wallace attributes them to a supernatural agency. Second, in excluding the action of use and disuse, he doubtless sees a loophole of escape from that doctrine of continuity which has no "favoured-nation clause" for man.

The "spiritual essence of nature, capable of progressive development under favourable conditions" (what a word-haze floats about the sentence!), suggests comparison, as contrasted with the protective explanation of the Catholic biologist, with those weak, mimicking species of beetles and butterflies which diverge from their family type to imitate more flourishing species, and thus secure immunity from like enemies. Mr. Wallace's Spiritualism is mimetic. But with all respect and earnestness, we ask him whether, in seeking to except man's mental nature from the operation of the agency which has modified every other part of his organisation, he is not in danger of lessening that sense of mystery which envelops the highest and the lowest life alike, and of playing into the hands of that mechanical philosophy of the universe to which men like Darwin and Spencer and Huxley stand as strongly opposed as himself? Having, with the fact of the differences between the

largest and smallest healthy human brain being, in respect of volume, greater than the differences between the smallest healthy human brain and the brain of the largest anthropoid apes, abandoned the theory of any physical distinction between man and his nearest congeners, what remains to justify the theory of a psychical distinction as against the fact that the same brains reveal in their creasings and furrowings that the differences are qualitative, and not differences of kind?

Happily, in this matter we may appeal from Mr. Wallace the Spiritualist to Mr. Wallace the Naturalist. In his *Contributions to the Theory of Natural Selection*, published in 1870, he supplies the needed explanation of the specialisation of man's mental faculties. As that work is out of print* it may be convenient to give the following extract in justification of our appeal.

"From the time when the social and sympathetic feelings came into operation and the intellectual and moral faculties became fairly developed, man would cease to be influenced by natural selection in his physical form and structure. As an animal he would remain almost stationary, the changes in the surrounding universe ceasing to produce in him that powerful modifying effect which they exercise on other parts of the organic world. But, from the moment that the form of his body became stationary, his mind would become subject to those very influences from which his body had escaped; every slight variation in his mental and moral nature which should enable him better to guard against adverse circumstances and combine for mutual comfort and protection would be preserved and accumulated; the better and higher specimens of our race would therefore increase and spread, the lower and more brutal would give way and successively die out, and that rapid advancement of mental organisation would occur which has raised the very lowest races of man so far above the brutes (although differing so little from some of them in physical structure), and, in conjunction with scarcely perceptible modifications of form, has developed the wonderful intellect of the European races." (pp. 316, 317. Second edition, 1871.)

* The announcement of a new edition is welcome.

This argument has suggestive illustration in the fifth chapter of the *Origin of Species*. Mr. Darwin there refers to a remark to the following effect made by Mr. Waterhouse: "*A part developed in any species in an extraordinary degree or manner in comparison with the same part in allied species tends to be highly variable.*" This applies only where there is unusual development. "Thus, the wing of a bat is a most abnormal structure in the class of mammals; but the rule would not apply here, because the whole group of bats possesses wings; it would apply only if some one species had wings developed in a remarkable manner in comparison with the other species of the same genus." And when this exceptional development of any part or organ occurs, we may conclude that the modification has arisen since the period when the several species branched off from the common progenitor of the genus; and this period will seldom be very remote, as species rarely endure for more than one geological period.

How completely this applies to man, the latest product of organic evolution. The brain is that part or organ in him which has been developed "in an extraordinary degree, in comparison with the same part" in other primates, and which has become *highly variable*. Whatever may have been the favouring causes which secured his immediate progenitors such modification of brain as advanced him in intelligence over "allied species," the fact abides that in this lies the explanation of their after-history; the arrest of the one, the unlimited progress of the other. Increasing intelligence at work through vast periods of time originated and developed those social conditions which alone made possible that progress which, in its most advanced degree, but a small proportion of the race has reached. For in this question of mental differences the contrast is not between man and ape, but between man savage and civilised; between the incapacity of the one to count beyond his fingers, and the capacity of the other to calculate an eclipse of the sun or a transit of Venus. It is, therefore, in the intermediate, and not in the initial stage, that Mr. Wallace should introduce his "spiritual essence, or nature."

To quote from Professor Huxley's *Man's Place in Nature* once more: "Identical in the physical processes by which he originates

—identical in the early stages of his formation—identical in the mode of his nutrition before and after birth, with the animals which lie immediately below him in the scale" (and which have come to be what they are by processess of gradual modification)—"man, if his adult and perfect structure be compared with theirs, exhibits, as might be expected, a marvellous likeness of organisation. He resembles them as they resemble one another—he differs from them as they differ from one another." (p. 67.) To these facts might be added the powerful evidence based on brain structure and cranial capacity. In this latter feature men differ more widely from one another than they do from the man-like apes, and in respect of brain-surfaces the differences between the two lie in the convolutions, and not in the weight, which is greater as between the lowest and highest men than as between the lowest men and the highest apes.

But the inclusion of the "soul" or "spiritual essence" or "Ego," or by whatever other names it is called among barbaric and civilised folk, in the orderly processes of man's development may rest, first, on the doctrine of continuity, and, second, on the ascertained mode of origin of belief in a soul as something *in*, yet not *of* the body.

1. Among the intellectual gifts which have enriched our age, perhaps the chiefest, because the farthest-reaching in its import and consequences as bearing on man's progress, is that of the doctrine of the unity and continuity of all phenomena. That for which priests and prophets of science in the past longed, and "died without the sight," has become to us a familiar possession. Astronomy, aided by the spectroscope, has not more convincingly proved the practical identity of stuff of which the whole universe is made than the comparative biologist has shown the practical identity of moss and man. Such identities might have co-existed as isolated units, whereas they exist in unbroken relation. Vain, as the Psalmist's search after some place where the Great Presence might escape him, would our search be after realms in space where the mighty forces and energies have independent sway; and nowhere, as we trace the long succession and ascent of life-forms from zoophyte to man, can we lay finger and say, Here there is a break; the old has ceased, the new

has begun. Into this argument we might press the evidence from heredity, whatever differences of opinion there be as to the mode of transmission. But, as against Mr. Wallace and others of his school, it may have small weight, since they do not deny the transmission of mental tendencies and characteristics, which they contend are the outcome of the specially inserted or superadded "spiritual essence" for the origin of which "we can only find an adequate cause in the unseen universe of spirit." (*Darwinism*, p. 478.) At least, so we infer, although it is not clear whether the "spiritual essence" was inserted once and for all in that *lusus naturæ*, "primitive" man, with potentiality of transmission through Palæolithic folk to the "foremost in the files of time," or whether a fresh insertion is made in every human being at birth. But upon so momentous an issue as this question of a separate entity in man, which at his death passes into another state, either psychopannychistic, that is, of sleep till the resurrection; or of reward, punishment, or suspense, something more than a "pious opinion" is necessary.

Superficial sceptics are in the habit of asking for proofs of the "missing link" between the big apes and man. No such link ever existed. Evidence goes to show that, by the time the middle Tertiaries had been reached, the monkey group, which is the common ancestor of apes and men, had split off into two or more groups, one division branching off into the anthropoid apes, among whose successors in our day are the ourang-outang, the chimpanzee, and the gorilla; and another division branching off into the earliest immediate ancestors of man, possibly represented by the creatures, of whom traces are found in rudely-split flint flakes and notched bones in deposits of the middle Miocene age at Thenay. Is it to such a creature that the "spiritual nature," marking it off from contemporary anthropoid apes—Dryopithecus and others—was "superadded"? Was such a creature too near the ape to be a man, or too near the man to be an ape?

If, however, this "spiritual essence" or "nature" is an individual endowment, how and when is its existence manifest? Is it present in the germ-plasm with which Dr. Weismann credits all potentialities of physical and mental structure, and, if so, do both

parents contribute it in equal shares? or is it introduced only at a given stage of fœtal development, and what is its destiny in the case of stillborn offspring that it tenants? These are not captious questions, neither do they arise out of any special difficulties created by the theory of evolution. They are "as old as the hills," and have exercised the ingenuity of theological casuists for centuries, into whose minds no doubt of the existence of the soul ever entered. These were, as the Arabs call pre-Mohammedan times, the "days of ignorance." But now that the old ideas seek inclusion in the Darwinian faith, to the denial of its fundamental tenet of continuity, their mere reassertion suffices not. They have to justify their claim, or take their place among the illusions through which man has toilfully passed to realities.

2. The theory of the origin and growth of the belief in souls and spiritual beings generally, and in a future life, which was put into coherent form by Dr. Tylor some twenty years ago, is based upon an enormous mass of evidence gathered by travellers among existing barbaric peoples; evidence agreeing in character with that which results from investigations into beliefs of past races in varying stages of culture. Only brief reference to it here is necessary or possible, but the merest outline suffices to show from what obvious phenomena the conception of a soul was derived, a conception of which all subsequent forms are but elaborated copies. As in other matters, crude analogies have guided the barbaric mind in its ideas about spirits and their behaviour. A man falls asleep and dreams certain things; on waking, he believes that these things actually happened; and he therefore concludes that the dead who came to him or to whom he went in his dreams, are alive; that the friend or foe whom he knows to be far away, but with whom he feasted or fought in dreamland, came to him. He sees another man fall into a swoon or trance that may lay him seemingly lifeless for hours or even days; he himself may be attacked by deranging fevers and see visions stranger than those which a healthy person sees; shadows of himself and of objects, both living and not living, follow or precede him and lengthen or shorten in the withdrawing or advancing light; the still water throws back images of himself; the hillsides resound with mocking echoes of his words and of

sounds around him; and it is these and allied phenomena which have given rise to the notion of "another self," to use Mr. Herbert Spencer's convenient term, or of a number of selves that are sometimes outside the man and sometimes inside him, as to which the barbaric mind is never sure. Outside him, however, when the man is sleeping, so that he must not be awakened, lest this "other self" be hindered from returning; or when he is sick, or in the toils of the medicine-man, who may hold the "other self" in his power, as in the curious soul-trap of the Polynesians—a series of cocoa-nut rings—in which the sorcerer makes believe to catch and detain the soul of an offender or sick person.

Although the difference presented by such phenomena and by death is that it is abiding, while they are temporary, to the barbaric mind the difference is in degree, and not in kind. True, the "other self" has left the body, and will never return to it; but it exists, for it appears in dreams and hallucinations, and therefore is believed to revisit its ancient haunts, as well as to tarry often near the exposed or buried body. The nebulous theories which identified the soul with breath and shadow and reflection slowly condensed into theories of semi-substantiality still charged with ethereal conceptions, resulting in the curious amalgam which, in the minds of cultivated persons, represents the disembodied soul.

Therefore, in vain may we seek for points of difference in our comparison of primitive ideas of the origin and nature of the soul with the later ideas. The copious literature to which these have given birth is represented in the bibliography appended to Mr. Alger's work on *Theories of a Future Life*, by 4,977 books, exclusive of many published since his list was compiled. Save in refinement of detail such as a higher culture secures, what is there to choose between the four souls of the Hidatsa Indians, the two souls of the Gold Coast natives, and the tripartite division of man by Rabbis, Platonists, and Paulinists, which are but the savage other-self "writ large"? Their common source is in man's general animistic interpretation of nature, which is a *vera causa*, superseding the need for the assumptions of which Mr. Wallace's is a type. That particular assumption represents the shifts to which such defenders are driven. For it no longer seeks support from the old and discredited asser-

tions that the belief in a soul and future life is universal, and therefore intuitional; nay, it denies the intuitions themselves save in so far as they are interpreted, in Mr. Spencer's words, as capitalised experiences. And it has ceased to appeal to a "revelation" which contradicts that term in the obscurity of its utterances and the consequent conflicting meanings given them, by sectarian interpreters.

EDWARD CLODD.

WHITE SLAVERY IN TURKEY.

DOES the traffic in Georgian and Circassian slave-girls exist at present in the Ottoman Empire?

Probably this question would be answered by an universal "No," not only by those who have but a general and outside acquaintance with that land of mystery and concealment, but by those who have the advantage of personal experience and observation by long residence therein. I do not pretend to say how far the "reforms," so constantly insisted upon by the Great Powers, and so readily promised by the Sublime Porte, are nowadays carried out, or if the pompous *Iradés*, *Hatti-houmayouns*, and other Imperial decrees of his Majesty the Sultan are as frequently the "dead letters" they proved to be when I resided at Constantinople; but the narration of an incident which occurred within my own personal observation during my first visit to that city may throw some light upon the subject and be of interest to the general reader, now that public attention is being directed to the question of slave-dealing in Africa by the co-operative efforts of England and Germany to check the infamous traffic in human flesh, and the recent "Decree" of the Sultan, prohibiting such traffic throughout the Turkish dominion.

Some time ago when I was in Constantinople on a pleasure visit, and under circumstances that enabled me to accept official courtesies from the Government, which greatly contributed to assist me in the arduous work of sight-seeing in the absence of the then American Minister, Mr. Morris, I was "taken in charge" by the secretary and dragoman of the Legation, under whose auspices I visited almost every place of public interest in that unique and remarkable city. A better guide or a more

indefatigable companion I could not have found. Not only did he speak the native language as fluently as his own, but he probably knew more about Turkey and the Turks—before and behind the scenes—than any other foreign resident in the place; and he was himself familiarly known by the Sultan and his Ministers, down to the boatmen who plied their *caïques* on the Bosphorus.

Among other matters for investigation, I was anxious to ascertain the exact truth with respect to slave-dealing in Turkey; especially the traffic in white slaves; for, although it was declared to have been extinct for years, I had my doubts on the subject. Fortunately an opportunity occurred for testing the fact. I was sitting one evening in a *café* with the dragoman, discussing, as it chanced, this very topic. Brown assured me that the traffic, since its declared illegality, no longer existed. I do not know where I got the idea that it was still carried on, surreptitiously, but I obstinately held to my own views. Just then a well-dressed official-looking individual entered the room, and the dragoman beckoned him towards us, introduced me, and invited him to join us at our coffee, remarking to me that he was one of the best authorities I could have on the subject, being a Circassian Government Agent, and that I should find he fully confirmed his, Brown's, views. As he did not speak any language but his own, Brown did the interpreting.

The stranger wore the Circassian or Tscherkesse costume—an embroidered straight-bodied military coat, having across the breast a row of cartridge pockets like a walking battery. He was a man of middle age, with a fierce moustache, but a benevolent countenance. In reply to the dragoman's question, he said that the statement he had made to me was quite correct. The dealing in white slaves was now a capital offence, and for many years not a case of the kind had occurred; in fact, "slaves and slave-dealing were things of the past in Turkey." The conversation soon turned to other matters, and, with many kind offers to be of any service in his power during my visit to Constantinople, he took leave of us.

A day or two after this interview, the dragoman came to me, somewhat excited, to say that the Circassian had been to see him, who said that, after thinking over the matter, he had decided, "as

an old acquaintance, not to deceive his American friend in the matter I had expressed so much curiosity about. Was I discreet? And could I be trusted?" The dragoman assured him that I could be trusted. Thereupon he stated that he himself had formerly been engaged in slave-dealing, and that "even *now*" he occasionally did a little business in that line! Furthermore, he would be glad to oblige me—if I would like a little adventure, and would be discreet,—by taking us both to the "only place in Constantinople" where white slave-girls were to be seen and sold. My friend was excessively astonished at this revelation, promised everything, and was as eager as I was to gratify his curiosity in the matter.

An arrangement was accordingly made for the expedition. Early one morning, long before the city was astir, we three drove over to Stamboul, and thence through its entire length, until we reached a comparatively unfrequented quarter. There we dismissed the carriage, and proceeded on foot through a network of lanes running between shabby wooden buildings, common to the outskirts of Eastern cities, until we stood before a high, rambling, time-stained wooden house, full of windows, but with every shutter closed, as if uninhabited. The only access to the building seemed to be a low door, half sunk below the pavement, shrunken by age, and studded with heavy-headed nails. It was closely barred and bolted from within. At this door the Circassian knocked with the head of his walking-stick, the sound reverberating through the empty rooms confirming the impression that it was unoccupied.

By pre-arrangement our guide was to appear in his character of "agent." I was to pass as a "hakim," or foreign doctor, to pronounce upon the quality of the merchandise and to decide upon the purchase; and the dragoman was to act as my interpreter. We all wore the red Turkish *fez*. As the knocking produced no effect it was repeated; and, after standing for several minutes in utter silence, the Circassian stepped back into the street to inspect the building, directing his attention to a particular window-shutter in the extreme upper story. As no sign of life manifested itself, he placed his hands to his mouth, as if to direct the sound to the window referred to, and whistled. Finally the shutters were cautiously opened about an inch apart, then a little wider, then to their full extent,

and an old, wrinkle-faced hag thrust out her head to inspect the party below. Recognising the Circassian, she gained confidence, and, after a brief parley with him in Turkish, withdrew her head, closed the shutters, and descended noiselessly to the door to let us in. Having rebolted it, we were shown into a dark passage communicating with a shaky old staircase, uncarpeted and creaky, up which we proceeded in single file, led on by the wretched old woman, who it appeared was the proprietress of the establishment. Arrived at the third floor, she threw open a door and stood aside that we might enter the room. It was perfectly dark, but the woman soon admitted the light from some side windows, and placing three chairs in line waived to us, with the grin of a toothless gorgon, to seat ourselves. It was a wretchedly bare apartment. An old rug was spread upon the plank floor, and a frayed ottoman of enormous dimensions was stuck up against the wall; these, and a few chairs of various patterns, as if picked up at an auction, constituted the furniture of the room. The effect was rather depressing. However, I had not come as a guest, but on business, and was anxious to see the live stock, and to get out of the musty old place so soon as my curiosity was satisfied. The lady of the house appeared to be disturbed at something and kept up an incessant chattering with the Circassian, the purport of which the dragoman, who was listening, translated to me. It appeared that, for precaution's sake, and with an eye to the police, the Georgian and Circassian girls were for the most part distributed for safe keeping in various households in Stamboul—friends of the proprietress, who were in the secret; these families passing them off, in the meantime, as their own servants. The question was: Would our party wait until these slaves were brought to the house for our inspection, or would we examine the "stock" then in the building, leaving the others for another day? The old woman was "in despair" that the Circassian agent, with his acquaintance with the usual business procedure in such cases, had not given notice beforehand of our intended visit, then all would have been in readiness. Was I particular, she asked, about age, temperament, and size? She had a great variety, fat and thin, short and tall, active and languid, &c.

As the Circassian had not come on any apparent business of his own, but to oblige me, as a stranger, I could not bring myself to carry the farce so far as to have the women brought from the other houses for my inspection, so I declared myself content to see those already in the house, at least for this visit. Accordingly the old woman went in search of them, most of the unfortunates being asleep at that early hour, in the back rooms of the establishment.

Seven girls, ranging from sixteen to twenty years, candidates for the harem, and a small Nubian boy, intended for a house servant, entered the room in solemn procession and, arranging themselves in line in front of our three chairs, somewhat resembled a Sunday-school class waiting to be catechised. The first glance was extremely disappointing. I had expected to see in these females something approaching the Georgian or Circassian type of beauty; such as feeds the imagination in pictures and Oriental descriptions, that embodiment of languid and voluptuous beauty which poets delight to sing of and painters to portray. On the contrary, I saw only a row of rather plain-featured young women, wearing slovenly gowns of the most ordinary material, and reminding one more of Irish servant-girls than of Oriental *Odalisques*. This was my first impression. On further inspection I perceived that the ill-fitting dresses were chiefly at fault, and that it would have been better had the dealer in these human beings consulted the artistic taste of the French shopkeepers in setting off her wares, *pour frapper les yeux*, in comely costumes, light gauze, flowing drapery, ornamental slippers, and the like, rather than to have exhibited them in slop-shop clothes, which had no doubt done service to their predecessors before they exchanged the slave mart for the *négligé* elegance of the harem. As I more particularly examined them I perceived what a remarkable transformation would result from such a change of dress, and one girl especially struck me as possessing, apart from the distraction of her unsightly calico gown, which was a mile too big for her graceful figure, many of the characteristics of the Oriental beauty. She was a little above the medium height, with a soft bloom upon her delicate rounded cheeks, regular features, dark expressive eyes, shaded by long lashes, full, perhaps rather too full lips, but which, when she smiled,

displayed a perfect row of teeth as white as the cleft of a cocoa nut. The bust was well developed, so far as could be guessed at through the gathered calico upon it, and an abundance of jet black hair fell in a long mass over a well-turned neck and symmetrical shoulders.

The faces of the girls, as they stood motionless before us, had an anxious expression, as if they had had enough of this miserable, uncertain condition, and longed to exchange it for the ease and repose of a home. This cursory inspection over, the old hag, who had been watching me with keen eyes to detect any sign which promised business, suggested that if any of the maidens appeared worthy of closer examination I should call them out of the rank. I at once beckoned to the one I have described, to approach. At this, her whole appearance changed. Smiling with delight, as if despair gave place to hope, she came forward as lightly and gracefully as a ballet dancer approaches the footlights to receive the applause of the audience; then, with downcast eyes, she stood still, awaiting her inspection. Acting upon the suggestion of my Circassian mentor, that I was not to forget my *rôle* of "hakim," but to examine the merchandise in detail, I proceeded to lift the eyelids and examine the pupils; to separate the lips and ascertain the condition of the teeth; to pass my hands through the long and glossy hair and to manipulate the hands, which were clean and shapely. To all this she submitted with cheerfulness, and was no doubt building castles in her poor little unsophisticated brain, wherein soft couches, sandals, and the enveloping gauze of the Oriental costume played their parts.

I was conscience-smitten at the disappointment to which she was doomed, and with almost a sigh of sympathy I indicated that she could return to her place.

The small boy was then advanced; a bright, little, merry-eyed Nubian, as black as the ace of spades; but I made short work of him and he went back into line with an air of disappointment.

My beauty, I noticed, had resumed her look of sadness as if she feared that, after all, there was to be "no sale." To cheer her up I began to chaffer with the old woman about terms of purchase, lowest cash price, guarantee of age, condition, &c.

"Five hundred Turkish liras, Effendim. Couldn't take less. Cheap at the price. The wife of a certain great pasha will be sure to take her at double the money the moment she sets eyes on her. Market very scarce and a rise in prices certain. Where will you find such eyes as those, Effendim? Come; say five hundred Turkish liras, and it's a bargain."

These ejaculations, or something like them, with frequent intermixtures of *Mashallah*, *Bismalla*, and so forth, the old slave-dealer uttered with the volubility peculiar to her class. The Circassian informed her that at present we were not prepared to conclude terms, but that if we decided to make a purchase he would duly inform her, so that a larger stock might be exhibited to select from. This, she seemed to have expected, for not even a Turkish carpet is bought in Constantinople, except by uniniated travellers, without repeated visits and an incalculable amount of haggling. Then, the girls retired.

We had had our joke; but I did not intend that the old woman should have her trouble only for her pains and so "tipped" her liberally, a portion of which she promised faithfully to divide among the slave-girls, but all of which, I fear, went into her own pocket.

When we got into the street the dragoman said to me: "You have seen to-day what not one foreigner in a million sees or believes to exist." How far he was correct I cannot precisely say. At all events I had then ocular proof of the existence of white slave traffic in Turkey—a fact persistently ignored by the highest official authorities as well as by hosts of philo-Turkish writers. Furthermore, I ascertained from reliable sources that this underhand trade in female white slaves went on with the knowledge and acquiescence of certain pashas; and that many ladies of rank found amusement and profit in trading among themselves in Circassian girls, and sometimes in betting them, in lieu of money, at private gambling tables.

As the morning had far advanced by the time we left the house of the slave-dealer, and the streets of Stamboul were alive with people, the Circassian deemed it prudent to part company with the two foreigners, and, under the plea of business, he went away in an

opposite direction. I had a notion at the time that he went back to the slave-dealer's, possibly to transact business with the old woman on his own account. I may have been mistaken, but as he had carried on a private and earnest conversation with her during our visit, and a certain familiarity existed between them which indicated an intimate acquaintanceship, my suspicions were not altogether groundless. The dragoman thought this "very likely," for the fact of this surreptitious trade being now fully established it was highly probable that it was carried on more extensively than it appeared to be. He could not conceal his mortification at this discovery, and dwelt upon it as we proceeded homewards, as if his personal reputation as a living encyclopædia of all things Turkish had received an irreparable blow.

As both he and the Circassian are no longer living, and many years have elapsed since this incident occurred, the "discretion" imposed upon me as a condition for being made acquainted with the facts I have narrated is no longer obligatory.

CHARLES K. TUCKERMAN.

A MODEL CITY; OR, REFORMED LONDON.

IV. LIGHTING:—ELECTRICITY.

ELECTRICITY is applied in two distinct ways to the production of light. When a current traverses a fine wire of metal, or other suitable material, energy is expended locally in overcoming the resistance of the wire and assumes the form of heat. The temperature of the wire rises until by radiation and communication of heat to the surrounding atmosphere a balance is established between the heat emitted and that received electrically. If the supply of electricity be sufficient, the temperature may attain to a red or a white heat, and the wire becomes a source of light. This is the principle of the incandescent or glow lamp.

The economy of the lamp depends upon the temperature attained. Short of redness there is no luminous return at all for the electrical energy expended. Beyond that point the return is at first small, but gradually augments as a white heat is approached. The limit depends upon the properties of available materials. Among metals the most infusible, such as platinum and iridium, give way comparatively soon. The infusible character of carbon attracted the attention of inventors at an early date, and the now universal use of this material for the wire or *filament* allows the temperature, and consequently the economy, to be pushed much further than would be possible with any metal.

The fact that carbon is combustible is not, as might at first be supposed, an objection to its use, inasmuch as a vacuum is required in any case. A platinum wire would indeed be exempt from risk of oxidation by contact with air; but at the high temperatures in question experience proves that all known materials are disinte-

grated by the molecular bombardment to which they are subjected, even when enveloped by what would usually be considered as a highly attenuated atmosphere. To attain reasonable durability it is necessary to carry the exhaustion to such a point that not more than about one millionth of the original air remains. For this purpose an ordinary air pump is useless. The operation is effected by so-called mercury pumps ; and it should never be forgotten that the triumphs of Swan and Edison are founded upon the previous scientific work of Sprengel and Crookes in the production of high vacua. When all is done, the best glow lamps of the present day rapidly deteriorate if overpressed. Economy thus requires a rather nice adjustment of current. If the current is too great, frequent renewals of the lamps become a heavy item of expenditure. If, on the other hand, the longevity of the lamp is secured by the use of too small a current, the low temperature of the filament is inconsistent with reasonable efficiency in the transformation of the electric energy. The precise point of maximum economy depends upon several considerations. In a few years the patents which now control the manufacture of lamps will expire, and the reduced cost will then justify a severer treatment.

The difficulties which oppose the attainment of a higher efficiency in glow lamps are evaded in the arc light. According to the discovery of Davy, near the commencement of the century, if two pieces of carbon, connected with a powerful source of electricity, are brought into contact, and then separated through a small space, a permanent current, constituting the electric arc, establishes itself across the interval ; and the passage of electricity gives rise to a light of great intensity. It is, however, a mistake, although a common one, to suppose that the arc itself is the principal source of light. A little examination shows that the light comes rather from the white hot carbons upon which the arc abuts.

It appears, then, that both electric lights have their origin in incandescent carbon. Nevertheless, there are many important points of difference. In the glow lamp the carbon must be retained intact ; and this, as we have seen, imposes an early limit upon the admissible temperature. In the arc light the carbons are under-

going rapid disintegration all the while, and the temperature is much higher. The greater efficiency of the arc as a transformer of electrical energy into light is undisputed ; but it is equally certain that this advantage is not without its attendant drawbacks. In the first place the gradual consumption of the carbons implies a more or less complicated mechanism for preserving the proper interval between them, and their renewal means daily attention. Another difficulty is that of adequate subdivision of light. For domestic purposes we do not require single lights of 1,000-candle power. A hundred separate lights each of 10-candle power are really worth much more. Again, in spite of recent improvements, arc lights are rarely quite steady. There is also the question of colour. The blueness with which arcs are often credited is an illusion dependent upon contrast ; but the fact remains that the white light which they supply is thought to be more trying to the female complexion than the yellow colour of candles, approximated to by glow lamps. For picture galleries, factories, and shops where the nice discrimination of colours is important, arcs are unrivalled, as well as for special purposes, *e.g.*, in magic lanterns and light-houses, where great concentration is an advantage.

The comparison of the two ways of applying electricity thus leads to the conclusion that there is a field for both. Large buildings and open spaces may well be illuminated by arcs, but for ordinary domestic use the superiority lies unquestionably with the glow lamp.

How far the electric glow lamp will displace other illuminants is a question upon which opinions naturally differ. Experience already shows that a large number of people prefer electricity even at a cost amounting to several times that of gas. In many cases the comparison to be made is rather with candles than with gas, for the latter is not usually considered good enough for the drawing-rooms and dining-rooms of those who can afford to pay for comfort. Modern paraffin lamps are, it is true, a great improvement upon those of our youth ; but here arises the question of domestic labour. Electricity is as convenient as gas, while it consumes no oxygen, smokes no ceilings, and needs no matches. The ease with which it can be turned off and on by a switch near the

door as a person leaves or enters a room offers a great opportunity for economy. A good deal probably still remains to be done in the way of finding the best disposition of lights. The comparative absence of heat allows of situations impossible to other illuminants, of which advantage has not yet been fully taken. Those who indulge in the luxury of reading in bed have a grand time before them. It seems likely that many dark underground places may be rendered much more available than at present by the use of electricity.

The vaunted coolness of electric light may seem paradoxical after what has been said of the high temperature of the filament. These apparently contradictory characteristics are really connected in the closest manner by the laws of radiation. The exceedingly high temperature of the filament is the very reason of the small heat *in comparison to candle power*. How far the coolness will tell in favour of electricity remains to be seen. One can imagine that in cold weather the heating effect of gas and oil would be missed by those unable to pay for ample firing.

So far we have been dealing with the private consumption of electricity, if such a term may be allowed. A still more important branch of the subject relates to the character of the supply. It may be taken for granted that it will be public, analogous to the usual supply of gas and water. At the present time, it is true, many theatres, hotels, and clubs possess private plants and supply their own needs. This arrangement is not likely to last, unless, perhaps, in the case of institutions of exceptional magnitude. It is in the main a result of the Electric Lighting Act of 1882, which in the supposed interests of the community threw such impediments in the way of enterprise as to cause London to fall into the rear of American villages and distant islands of the Pacific. During the last two years, and under a more rational law, there has been considerable progress, and it is probable that before very long most people who want electricity will be able to get it.

Whether the supply of electricity to the model city should be in the hands of private companies, or should be undertaken by the local authorities, are questions likely to be answered in a different way by different people. Those of a sanguine temperament will

embrace the latter alternative, picturing to themselves a municipal body, elected by the people, animated by the purest public spirit, and eager to advance along the path of improvement. Others doubt how far this ideal is attainable in the present state of the world and of human nature, and in the meantime would prefer to trust, as far as may be, to private enterprise. There is much to be said in favour of arrangements similar to those now in force with certain gas companies, whereby a dividend beyond a certain standard carries with it an obligation to reduce in a proportionate degree the price charged to the public. In this way the management retain in a sufficient degree the natural stimulus to seek out and adopt improvements, whether of a scientific or of a commercial character, but at the same time they are not allowed to use their position as monopolists to put the whole money value into their pockets.

The supply of electrical energy may be either on the steady or on the alternating current system. The former is the easier to understand, as it is analogous to hydraulic power. All students of mechanics know that in the latter case the power may be treated as the product of two factors, (1) the pressure, measured perhaps in pounds per square inch, and (2) the flow, measured in gallons per minute. In precisely the same way electrical power depends upon the electrical pressure measured in volts, and upon the current, measured in ampères. So far as energy is concerned, it comes to the same thing whether we have one ampère at 100 volts or 100 ampères at one volt. But as the loss of power in the conducting mains depends upon the current and not upon the pressure, economy of distribution is promoted by the use of high pressures. This consideration becomes more and more important as the distance increases to which the supply is to be carried ; so that economy precludes the extension of a low-pressure system over a very wide area. On the other hand two obstacles stand in the way of high pressures. Above 200 or 300 volts electricity becomes dangerous, and it is usually considered that the pressure *brought into private houses* should not much exceed 100 volts.

If the district to be dealt with is of moderate area the simplest plan is to use one pressure throughout. The Kensington and St.

James's Stations, now in successful operation, are upon this system. The current is generated by dynamo machines driven directly by quickly revolving engines, and is led through the streets by massive copper strips, supported at intervals by glass or porcelain, and contained in culverts under the footways. Such is the efficiency of the machinery that Mr. Crompton estimates the electrical output as 85 per cent. of the power indicated in the cylinders of the steam engines.

In the alternating current system the flow of electricity is backwards and forwards. For perhaps one two-hundredth of a second the motion is forwards and during the next two-hundredth of a second backwards, so that the complete cycle occupies one hundredth of a second. The principal, perhaps one may say the only, advantage of this system is the facility with which it lends itself to *transformation*. Electricity may be generated and distributed at high pressure, and at the last, or nearly the last, moment be transformed without much loss of energy into electricity of low pressure. It is as if a gallon of water at a pressure of 100lb. to the square inch could be converted into 100 gallons at a pressure of 1lb. In this way the security of a low pressure in the consumers' houses can be made compatible with the economy of a high pressure in the distributing mains. It is thus possible to supply at a considerable distance from the source, as is actually being done in London by the Electric Supply Company, whose generating station is seven miles away, at Deptford. On the other hand it is contended that the losses in the transformers, together with the increased cost of insulation for mains at high pressure, neutralise the advantage which the alternate current system might otherwise possess.

He would be a bold man who should pronounce with confidence at the present moment upon which system the model city of the future will be lighted. It may be that both will hold their own. More probably the question may be decided upon other grounds than those connected with lighting. It is the opinion of many competent authorities that the supply of mechanical power may ultimately prove to be as important as the supply of light. If this be so, the scale can scarcely fail to turn in favour of the steady non-

alternating current which lends itself more readily to mechanical and chemical uses.

The extended employment of electricity for various purposes would remove one difficulty which at present presses heavily. The demand for light is unduly concentrated upon three or four hours of the evening. During these the station must be able to meet the simultaneous requirements of both shops and private houses. Mr. Crompton finds that on the average of the year the demand in a residential district is only about 8 per cent. of that which the plant could supply if capable (as it must be) of dealing with the hours of greatest strain. It is needless to point out that under these conditions the machinery works at great disadvantage. On the steady current system a partial remedy may be found in the use of secondary batteries, by which electrical energy is stored in a chemical form, somewhat as gas is stored in gas holders. But anything tending to equalise the consumption over a large part of the twenty-four hours would greatly simplify matters, and would ultimately enable the companies to reduce their charges. Such would undoubtedly be the effect of the extensive application of electricity to the distribution of mechanical power.

RAYLEIGH.

GAS.

THE question to be answered is whether it would be good for the Metropolitan community that the London County Council should obtain and use Parliamentary powers enabling it to buy out the three great gas companies of London.

The distribution of gas is not to be treated in quite the same way as that of water. Every man, woman, and child in London needs, and ought to desire, an abundant supply of water for the sake of cleanliness if not for drinking purposes; and pending the time when a maternal State shall send inspectors to watch the children of the State while they wash themselves, the least that can be done is to make everybody possess the means of washing in the form of water, which Christians prefer, rather than that of sand,

which the Mussulman uses on occasion. Artificial light also is almost a necessary of life; but there are many forms of it and it cannot be said now, as it could be in 1874, when a certain Alderman, Joseph Chamberlain, Mayor of Birmingham, addressed his fellow Councillors upon his project for municipalising the gas supply of that town, that gas is even almost a necessary of life. On the contrary, householders are rather better off without it than with it, whether they burn the occasionally exploding mineral oil, or the candle which always gutters, or use the electric light which sometimes, as at Cardiff recently, burns adjacent wood, or, as in America frequently, executes the incautious handler. Still, on the whole, most of us want gas to warm our houses, if not to light our rooms: nineteen-twentieths of us in London use it in some way; and the demand increases year by year.

In other respects than that of indispensability gas stands upon the same footing as water. It cannot be supplied save by persons armed at the outset with power to break up roads and so forth, and since we desire to be allowed to use our streets for pedestrian purposes often and even, on State occasions, to keep some of them open for vehicular traffic, we cannot allow more than one set of people to supply gas in the same district at the same time. The proposal, then, is that certain corporations aggregate, possessing the monopoly of supplying gas in certain districts, should be bought up in the interests of the municipality, and the first thing to be done, if we are to reach any practical conclusion, is to come to an understanding with regard to the position of these corporations.

Now the position of the gas companies, outlined roughly, is this. The promoters of each company, representing the original shareholders, made a bargain with Parliament, representing the nation, and the effect of the bargain was that the companies in return for certain privileges and powers, among which freedom from competition was included, should supply gas of a certain quality and pressure at a statutory price, rising and falling in proportion to the "cost of production" as the words were understood then. The bargain was tolerably fair to both parties at the time, but Parliament, albeit possessing no larger share of the spirit of prophecy than the individual man of business, is compelled to make bargains which

shall endure for long periods of time. Hence came it that Parliament, while it could not well refuse to grant privileges to the various gas companies, was unable to foresee the immense progress which was going to be made in the economy of materials and in the utilisation of residuals. So Gas Light and Coke Ordinary A Stock is at 242½ and South Metropolitan Ordinary Stock at 228½*x.d.* In truth Parliament made too long a bargain in this case as in many others, and the fact that many of these over-long bargains have been made in the past has made the Parliament of our day properly cautious in the granting of monopolies. But the enormous dividends paid by the gas companies now will not justify us in rescinding the bargain, and buying out the companies at par, for the original shares have changed hands many times and the nominal dividends represent a very modest rate of interest upon the money invested by the present holders of shares upon the faith of the national promise. A single breach of the national faith in such a matter would have the fatal effect of deterring men from investment and is, therefore, a thing not even to be suggested. If we buy out at par a man who has bought wisely at a premium we do but cover theft with a statutory veil. On the other hand it is repugnant to our sense of justice, and contrary to the individualist ideal, which may be summed up in the words "a fair field and no favour," that private capitalists should make so large a profit upon the capital invested in their business of supplying that which most people want without being exposed to the danger of competition.

To find a solution for a difficulty of this kind would be extremely difficult under ordinary circumstances; even in this case we cannot hope to find a perfect solution; we must be content if, by inflicting a minimum of injustice, we can secure a great benefit to the community. It is suggested that this end can be reached by compelling the shareholders in the gas companies to sell to the municipality at fair present price and that the municipality, by giving that price, would obtain a remarkably good bargain. The difficulties in the way are, on the one side, that it is not absolutely just to force men to sell that which they have bought because they thought it was likely to become more valuable, and on the other

side, that the supply of gas may become less lucrative so that the municipality may find that it has made a bad bargain, and that the municipality may manage its gasworks very badly. The first difficulty is a small one, for the hardship which it is proposed to inflict is not very great, since there is no room for sentiment about a gas share which can be priced to a shilling, and after all we may be saving the owner from possible loss by buying him out ; the other difficulties will, it is hoped, disappear gradually as the treatment of the subject proceeds.

The consumer pays a great deal more for his gas at present than he would have been compelled to pay if the municipality had borrowed money at 4½ per cent., and had become its own gas manufacturer, selling at cost price, from the outset. A comparison between the nominal capital of the gas companies and their dividends proves the truth of this statement to demonstration. But the price of ordinary stock tends to increase constantly. Why? Because the statutory price of gas varies, roughly speaking, in proportion to the cost of producing gas without reference to recently discovered residuals, so that each new residual which is produced in a merchantable form adds to the profits of the gas companies without conferring any corresponding benefit upon the public. Under these circumstances it is good and profitable policy for a great company, such as the South Metropolitan, to keep a staff of skilful chemists in constant employment not only to test the purity of gas and so forth but to be always on the alert to discover new things which can be done with the residuals. Parliament, for example, never dreamed when it made its bargain with the South Metropolitan Company that its works would produce not only gas, coke, coal-tar, and ammoniacal liquor, but also sulphur, and that in such large quantities that, when the process of purification has been made perfect, the vocation of Sicily will be gone. Now nothing appears to be much more certain than that we are by no means at the end of the discoveries which will be made for utilising the residuals of gas ; thus, the Badische Anilin Company make money by dyes produced from α naphthylamine, a derivative of coal-tar, and Mr. Levinstein, at one time, made money by dyes produced from β naphthylamine ; nor is there any reason in the

nature of things why some day or other the municipality, having secured the gas works and, with them, a perennial stream of coal-tar, should not take the profit to be gained by skilful treatment of the sulpho-acids of oxyazo-naphthylamine. In fact, few things appear to be more likely than that, in the long run, the sale of the residuals will more than pay for the production and the distribution of gas. Even now, I am informed upon good authority, there are places in which gas is produced, and wasted, solely in order that the residuals may be obtained for the market. It is true that the distillation of coal to this end is carried on at the pit's mouth and that our municipality must bring its coal to London ; but, on the other hand, in spite of electric light and beautiful lamps, the community continues for the present to consume gas in increasing quantities and discoveries increase in number. These are the considerations which lead to the conclusion that; in buying up the companies at what may be called the market price, the Metropolitan community could hardly make a bad bargain.

But would the municipality manage its affairs well? The *primâ facie* answer is in the negative, for two mutually destructive tendencies are at work. On the one hand there is a constant tendency to entrust matters of business to municipalities, on the other hand there is a constant tendency to allow political considerations to be of influence in municipal elections. The first tendency were no bad thing were it not for the existence of the second. That inseparable accident of representative government, the election agent, has obtained a firm footing ; he cannot be ousted ; and we find, to take an extreme instance, a man elected a member of the Corporation of Bristol and thereby, perhaps, entitled to take a share in the control of the Bristol Docks, not because he knows anything about imports and exports but because he is sound, from one point of view or from the other, upon the Irish Question, because he is a Local Optionist, or a Disestablishment man. The thing is an absurdity, to be justified only upon the monstrous principle, the holder of which stands convicted upon his own confession of folly, that a genuine difference of opinion between sincere and intelligent men is an impossibility, in which case an unblushing Tory would be entitled to write the leader of the Opposition down as knave or fool. It would be easy to

multiply instances of mismanagement by municipal corporations and other elective bodies, but it would hardly be to the present purpose. Very material, however, to that purpose is the history of the Birmingham Corporation Gasworks, which shows that a municipal body can manage gas works exceedingly well in spite of the fact that the members of that body are chosen by the electorate upon purely political grounds.

That history amounts to an almost impregnable argument and is worthy to be summarised. In 1874 two companies, the Birmingham Gas Light and Coke Company, and the Birmingham and Staffordshire Gas Company, supplied Birmingham with gas, but paid no dividend to shareholders. A movement for the purchase of these two undertakings was set on foot by Mr. Joseph Chamberlain, and in 1875 the necessary Act of Parliament was obtained. So far as one can ascertain at this distance of time, a handsome price was paid, but from the day when the purchase was completed until to-day the gasworks have flourished under the control of the Gas Committee, and the gasworks have been a profitable concern to the municipality. How profitable they have been is shown by the annexed extract from a recent report, brought up to date through the courtesy of the present secretary.

And why has this success been achieved? Not because the individuals composing the Birmingham Corporation acted more prudently than private individuals would have done under similar circumstances, but because their circumstances were more favourable than those of an association of private individuals could possibly be. They had undisputed possession of the whole area of Birmingham which was shared by two companies before; a double staff was thus reduced to a single, and there was great economy in collecting dues. A masterly rearrangement of the mains further decreased the expense of distribution. Lastly, the Gas Committee have made enormous profits after paying interest on money borrowed. If in the birthplace of the Caucus, where politics are rampant, the Corporation can produce so excellent a result, it is not easy to see why the London County Council, which is not yet inveterately political, should not do equally well.

Whatsoever profit is to be gained by a single system of mains,

STATISTICS, FROM 1875.

Year.	Capital Expenditure to 31st Dec.	Coal Carbonised.	Gas sold, and used on Works.	Gas Rental.	Price of Gas, less 5 % discount for prompt payment.	Average Net Price of Gas.	Residuals Sold.			Amount of reduction Public Lighting.	Net Profit.
							Coke and Breeze.	Tar.	Ammoniacal Liquor.		
	£	Tons.	Cubic feet.	£			£	£	£	£	£
1875	2,000,931	296,000	*2,327,596,800		3/– to 3/6	Abt. 3/1¼					25,339
1876	2,084,530	299,396	2,386,565,800	344,144	2/9 to 3/3	2/10·60	70,790	31,165	16,271		34,122
1877	2,131,751	287,899	2,380,217,800	342,614	2/9 to 3/3	2/10·54	55,868	33,205	16,584		36,685
1878	2,131,442	297,884	2,494,495,900	357,678	2/9 to 3/3	2/10·41	39,997	31,279	28,547		54,832
1879	2,153,336	318,083	2,645,396,200	346,709	2/6 to 3/–	2/7·45	41,369	33,196	38,199		51,166
1880	2,142,262	307,232	2,675,755,400	349,551	2/6 to 3/–	2/7·35	47,549	39,306	39,374		57,009
1881	2,096,110	309,134	2,747,865,400	325,008	2/3 to 2/9	2/4 38	49,861	39,830	47,369		52,853
1882	2,127,726	301,491	2,716,568,400	319,639	2/3 to 2/9	2/4·24	48,685	32,083	54,294		50,946
1883	2,190,875	311,886	2,861,072,000	336,275	2/3 to 2/9	2/4·21	49,634	32,705	42,706		55 389
1884	2,274,095	323,050	2,953.697,800	327,982	2/1 to 2/5	2/2·65	44,486	31,918	33,564		28,465
1885	2,313,222	343,156	3,151,878,000	332,145	2/1 to 2/5	2/1·29	39,286	22,665	28,002	7,347	25,000
1886	2.328,014	350,734	3,298,746,000	344,211	2/1 to 2/5	2/1·04	34,356	18,899	30,609	8,180	19,227
1887	2,294,340	359,415	3.378,555,000	377,778	2/3 to 2/7	2/2·76	34,835	16,886	27,561	9,220	25,773
1888	2,241,271	372,665	3,482,923,800	387,842	2/3 to 2/7	2/2·75	43,959	21,781	29,588	9,861	40,916
1889	2,211,060	390,128	3,618,777,800	401,696	2/3 to 2/7	2/2 64	60 384	29,102	32,430	10,915	70,337
1890	2,184,537			415.746	2/3 to 2/7		87,444	32,183	31 243		41,035

*About.

by the employment of a single instead of a treble staff for purposes of management and collection of dues, can be gained in London no less certainly than in Birmingham. Moreover, the public would lose nothing in the way of civility ; the municipal authorities could not treat the consumer more discourteously than he is treated by the gas companies and their hirelings, who have passed the limits of toleration and reached the limits of possibility in this respect. (*Vide* the *Times*, in September, 1890, *passim*.) The only dangers are, firstly, that the municipal body might not be so keen as a private company in the pursuit of new residuals—Mr. Livesey's men, for example, seem to have outrun their contemporaries at Birmingham —and secondly that, if the municipality took over the gas supply, it might thwart the development of electric lighting as municipalities have thwarted it elsewhere. The answer to both fears is, that when the County Councils have more work to do and less time for the discussion of visionary schemes, the electors will take care to choose men according to their capacity for work and not upon the basis of political views to which, *quâ* County Councillors, they ought not to be able to give a particle of effect.

One observation, suggested by Alderman Chamberlain's speech in 1884, remains to be made. Alderman Chamberlain urged that the profits which would surely be made by the sale of gas in Birmingham could be applied in reduction of rates ; they have been applied in subvention of the improvement rate. It is submitted that the true principle is for a municipal undertaking to be self-supporting and no more. As soon, for example, as our London County Council Gas Committee begins to apply profits made to the reduction of rates it will be just to complain that money paid by the poor ratepayers, who are the consumers of gas, is being applied to relieve the rich men who can afford to use more luxurious illuminants. But the time for that complaint has not come yet.

EDMUND VINCENT.

HYPERBOREANS OF TO-DAY.

THE COUNTESS PLATOFF.

IN Russia to-day, and, perhaps, there alone among European countries, the yeast by which every people has risen and is made may be seen in ferment. Nature there has not yet been bent into subjection, but is still vital, virginal, magnificent, the power which once compelled the mothers of men to bring forth giants to cope with her, in emulation almost, and for contention. The wild life of the open world washes everywhere, like a surf, up to the very walls of the cities, redevouring, with a tongue of weed and sand, the morsels snatched from it by billhook and ploughshare, always alert, voracious, presumptive; and before it a silent people, sad-faced, flat-browed, rough-bearded, stands, keeping it at bay: a people distinctively human only in form; phlegmatic, barbaric, animal, fatalistic; living as weeds, and dying as the worm, without desires and without regret.

Their masters are the most finished gentlemen in Europe, and, perhaps, the most unfinished natures in the world. They live within the cities, or make but the briefest excursions outside them; they are polished, emotional, unveracious, superstitious, atheistic, and fatalists at heart: still saturated with natural instincts, and controlled in the main by a natural morality, their apparent aim and fondest employment is the imposing upon themselves of artificial restraints and the observance of utmost trivialities of fashion, which lies like a frost upon their duties, and eats as a fever into their delights.

Between the freemen of the fields who toil like slaves and these serfs of the city who live like gods, there exists no connecting class,

no uniting interest; and some results arising therefrom are notorious though unlikely to prove of lasting importance. The mass of simple pastoral men in Russia will never be set on fire by the torch of political incendiaries, but there is danger that they may be petrified, by the Medusan eyes of social corruption, into monuments of sensual sloth and bestial appetite, as, year by year, in the city of St. Peter, are the dreams of its fitful genius into stony masques of fashion and decay.

Neither the rulers nor the ruled in Russia are picturesque so far as they faithfully represent their class: they are interesting only as representatives, and, being easily depicted and endued with a certain dramatic passiveness, figure frequently in Slavonic novels of to-day; and appeal with force to those who, by means of translations, become acquainted with characters, and do not know them to be mere blotting-pad impressions of an official caligraphy. It is only, however, when the types are crossed that any real inscription of character occurs, an event common and trifling enough with us, but no light nor ordinary matter when the senses are many centuries older than the soul, as sometimes one is forced to believe they must be in the empire of the Czar.

Of such a confluence Tolstoi's Albert is no exceptional instance: he is typical of every meeting of the folk-spirit in the blood of his people with the fashion-spirit in their brain; a meeting which never ends in marriage, nor in any noble productiveness, but in dull and chequered fruit, apples of ashes, in precocious decrepitude, and in the final dissipation of the soul, either within or without the body.

It may seem an affectation of simplicity to mention with the inebriate fiddler one so different from him beyond degrees of comparison as the Countess Vera Platoff, one whose genius—whose possessive and productive spirit—has been crushed within her, into self-repression, instead of being pressed out, as with him, into self-indulgence. Yet the energy, which in her is too proud to revolt has closer kinship in its veins than comes merely of foster-milk, with that which in him was spent in perpetual revolution; and by its scorn and callous treatment of such power, the Russian people is spoiling daily its chance of splendid destiny and renouncing the large promise of its use.

No one introduced to Vera Pavlovna would probably see in her more than the woman of fashion, for other than that she does not pretend, nor, apparently, desire to be. There are albums of caricature on her tables, to which Gavarni's signature might be attached, and pictures of academical distinction on her walls; but the keenest penetration would scarcely credit the production of them to their owner, or suppose that the grave, almost languid lady, with girlish freshness of face and magnificent eyes, who poured you out weak tea and passed the weaker tattle of the Court with an equal and unassumed interest, was the passionate actress and singer of the night before, whose brilliant orchestral trifles are heard with rapt attention by the audiences of Rubinstein and Tschaikowsky.

I made her acquaintance shortly after her marriage, a marriage of convenience according to the biting phrase—of most bitter inconvenience it proved to her—with Count Peter Platoff, who was forced, after the fashion of his nobility, by his own and his father's extravagance, to buy a wife and her fortune with his title; his own reputation as a profligate and a gambler, and his disdain of every honourable ambition not weighing in the matter. When they returned to town I met her for the first time, and was struck only by her beauty, her extreme youth, and a directness and sincerity in her manner which I thought to be the outcome of a country life, and had no idea until two years later that her mind was a mint which she had ceased to work, seeing the ideas it struck were not current in the society she had entered. Sometimes, when she knew me better, and discovered a community of interest, she would shape some flashing fragment of thought and stamp it in her sovereign style, but only to make medallions for a friend, not coin of exchange.

Elsewhere she would have found scope for her powers, and might have been another Madame Roland or George Eliot, with a range and authority of which they never dreamed; but if told so she would merely shrug her shoulders and reply, "I am here." Such fatalism almost creates the grim sisters of destiny.

"I have never cared much for life," she once said, "seeing I have never had much to live for. I know of death too little to desire it."

Such words in the mouth of a woman of profound ability and striking beauty form a proud advertisement for the pessimist, though she herself does not profess despondency, but conforms, without show of acerbity or despair, to the advice of Epictetus, abiding where the gods have placed her. Nay, more, for with the key, in the shape of poison, always beside her, she stays on "though the chamber smoketh much."

It was some time after her marriage when I learnt what was, perhaps, her most significant ability.

I had been shown into her studio, where she rarely received, and to pass time looked through a couple of albums, lying there, which bore her crest. One held the medley of a young lady's first drawing lessons, furry unhopeful-looking things; the other was crowded from cover to cover with caricature; the Countess herself, her sister, all the familiars of the house, except her husband, and every well-known face and figure in the capital, sketched with frank humour and unfaltering expression, not as portraits, excepting an occasional corner so filled, but in scenes, and with a fidelity which might seem too faithful, save to those who had witnessed them, to be compatible with burlesque; a travesty without a trace of malice, yet as suggestive in its reticence as a finger laid upon the lip.

I was completely absorbed in it, when Vera Pavlovna entered; her smile intercepted and answered my natural inquiry without vanity or reserve, and was only deepened by my extravagant eulogy; but from that day she treated me with a blunt and sometimes pathetic candour, very different from the accomplished reticence which made her so agreeable a hostess, and which seemed always to invite but never returned a confidence.

I used to lend her foreign reviews of note, and tried to interest her in home affairs and foreign policy, for both of which she affected the fashionable alertness, and felt the profoundest contempt, and I was on my way to her house on that fatal 1st of March when the bomb was flung at autocracy which killed an emperor.

The story of that terrible day and night has yet to be written. Never was there such paralysis as when that head of half a world received its death-blow; twelve hours before, his spies had been in every house, no one was great or small enough to be secure from

them ; men were condemned for high treason on a neighbour's jest, women were dragged from their beds at midnight to face the spiteful falsehood of their maids ; there was an oppressive sense of caution in the air, one breathed it like a fog, it darkened the land as the locusts of Egypt's plague. After the first burst of licence following the shock of the catastrophe its discretions increased ; the silence of this silent people was significantly intensified ; the conversation of the streets became ludicrous by its insatiable avidity for trifles ; to read a letter there would have been to expose oneself to be torn to pieces ; a sentence of serious meaning was ignored, men slunk away from it as from a serpent.

But the shell of the nameless regicide shattered other conveyances in the State than the Imperial carriage, and blew some things out of the air by blowing others into it.

There was, for some thirty hours, a freedom which might be felt ; the sense of authority was gone ; the police had lost their protector whom they had failed to protect, the soldier his king, the dvornick his god. There was visible anarchy of passion or fear in every face. I saw people chattering like daws on the spot where the murder was done, crying, praying, picking up bits of glass from the shattered windows around, fragments of the Emperor's coach, and of his overcoat ; they even dipped their handkerchiefs in the blood supposed to be his, but which had probably flowed from the other killed and wounded, to treasure it as a relic.

The whole city seemed gone mad with fear and the dream of violence. Dread of further explosions emptied churches, theatres, tramcars, railways ; every public resort was abandoned, public-houses were closed. There was disorder everywhere. In some districts the peasants refused to condole officially with the new Emperor until they had received a constitution ; in others they craved permission to massacre the upper classes, to plunder their property and seize their land ; in some they killed and pillaged without making the request. Newspapers which had so lately sung the pæans of autocracy, clamoured boldly for the liberty of the Press, and every other freedom it implies.

Suicides were frequent, murders unnoticed ; innocent men were

arrested in troops, and criminals like Rysakoff, who was afterwards hanged, were lionised by the police, who supplied them with the best of eating and drinking, and discussed with them the topic of the day over a friendly cigarette. No one knew in fact who would be master to-morrow, and overtures of indemnity, as loathsome as they were ridiculous, were made in every quarter. The most impossible conceptions of panic-stricken brains were believed to be impending. Stories of fresh conspiracies, of more terrible explosions, of reactionist risings and advance of their avenging hordes upon the capital, of vast mines under whole streets, passed from mouth to mouth, gathering portents as they went. Society, tottering before, was shaken to its base; its members, expecting they knew not what, went to their homes to await the worst. Yet, all the while, no steps were taken, no precautions attempted; none sought refuge in flight, nor dreamed of resistance; there were no signs of panic; the city of palaces seemed stricken with paralysis as a city is stricken of the plague.

The Countess held a reception on that day, but I found her alone with her husband, and it occurred to me that I had never seen them so before; there was an air in the house like that which follows the entry of death; the servants stood listlessly about as though they were petrified internally; the lackey who admitted me suppressed an hysteric giggle, his face was quaintly like a faun's, fat with vacuous excitement.

I exchanged a few words with the Count, who told me rapidly that he feared a card party to which he was invited might, under the circumstances, prove a failure. He mentioned in an excited way the names of those he hoped to meet, dwelling with Russian minuteness on some trifling proclivities of each player, and disappeared abruptly without taking leave. It was hard to say whether the man or the gambler were more agitated.

His wife was seated in the window's recess, looking out along the wide white quay towards the Winter Palace; she sat with her hands folded before her, in an attitude of profound dejection; she did not seem to be aware of her husband's abrupt departure.

Presently she turned and looked at me sadly:

"Do you bring news?" she said.

I replied I was not likely to have any unknown to her; for by that time every beggar in Petersburg knew what had happened, and much that had not.

"You have heard what has been done over there?" she asked nodding her head towards the Winter Palace.

I said I had not. The great square before the Admiralty was full of people when I passed it, dvorniks mostly, and the roughest company of the streets, leering, cruel-eyed men, the infidelities of evolution, gathered beneath the balcony on which the Czar often appeared on great occasions.

"It was over there," she continued, "before the Palace . . . they were waiting to see the Emperor . . . he did not come. Ah! you know all; that they say he will never stand again?"

"He is dying!"

"Is it so? Our poor father!" She looked absently across the quay, and I had to remind her of her subject.

"They were speaking of him, there," she went on, "and waiting, waiting . . . you know what men are that wait"—her voice spoke some experience that way—"they all were eager and sour and angry, saying this thing and that of him . . . how good, how brave . . . telling things that he had done, and when one spoke the rest cried, 'Ech ech!' so that it sounded far off like the breaking of stones. And it seems these students, two of them, who were there laughed, at some foolish jest, perhaps, between them; but when they laughed, the people turned on them and roared—oh! it was like some beast of hell!—and tore them up by the feet and hands and . . ."

She folded her arms tightly, and sat erect, looking towards the scene of that awful butchery. Another woman would have covered her face.

"You saw it, Countess?"

"I saw it," she said, fixedly; "they pulled them to pieces; I saw their faces. . . . "

She stopped abruptly, as if afraid of her emotion. Presently she turned to me with a sudden and beautiful abandonment.

"There must be a meaning in these things, monsieur, not so terrible as there seems: if you know it, tell me."

Never have I seen anything to be compared to the expression of her eyes. There seemed to be within her some part of the Divine nature, which could not use its human shape, but strove there, impotent and unaccomplished, behind it.

I thought of her as I knew her, humorist, painter, actress, musician; the extraordinary completeness, the utter waste of her powers. In painting and music she could speak, as it were, two languages of the soul; few can do that; she spoke them with convincing force. How profound a knowledge of the grotesque and terrible, of every tragic and every pitiful quality in man was instanced by her work in caricature it would be hard to say, or how such emotions found expression in her sketch-book and acting, while so rigidly repressed in her life.

That glance of some powerless, passionate desire, impelled and unable to realise itself, and therefore careless of those graces and ornaments so highly valued, for their own sake, by the world, gave a fresh clue to her character, in following which I almost forgot that, unconscious of her divinity, careless of her destiny, she herself was sitting there before me, asking the meaning of a ruthless murder.

I said that what it meant might matter little to any of us in a few hours.

"So my husband says. I believed you would rather understand what has happened than consider what might."

She rose, and looked again out of the window.

"This people of mine, what are they to do so brutal a thing? You know them, they are simple, gentle, patient; they suffer much, always. Is there to be an end to that, to be an end to it now?"

I said that doubtless an end would come.

She turned towards me with an eager face.

"Is it near?"

I shook my head.

She took down a little cup from the cabinet beside her, and toyed with it in her hands.

"I am no Republican, as you know," she said simply, "but sometimes, such a time as this, I feel as they say those women felt who

did great things. Look! I that must hate what my people have done to-day, how is it that I love them so?"

There was something regal in her simplicity, and in the resonance of her words. I remembered them long after; and two years later, that outburst of queenly compassion and of womanly tenderness recurred to my mind when an acquaintance stopped me in the street with the startling sentence:

"The Countess Platoff has shot her husband."

The statement was accurate according to Russian ideas, and in a society which, by making a fetish of honour, has forgotten its sacredness, and which considers the obligations of a fuddled gambler before the claims which even prospective motherhood lay upon a woman.

I had seen her that very night, when she was called so suddenly to play a leading *rôle* before the footlights of Fate; she was enacting the part of Marguerite in Gounod's *Faust*, when the curtain rose on the tragedy of her own life. The performance was in honour of an exalted personage then visiting Russia, who refused good-humouredly to believe, until she were introduced to him, that he had not been listening to some northern star of song. She was triumphantly successful, and looked, with the German's fair fringe above her dark eyes, strangely beautiful. She used always to appear at the supper which concluded the evening in the dress she had been wearing, and the last glimpse we had of her that night, or rather morning, was in a great fur cloak, which covered the conventional white robe of the prison scene, talking with more than her usual gaiety to Prince P. as he handed her to her sledge.

She must have been in the same attire when she met her husband, for he was awaiting her return, and her disguise added, no doubt, a pathetic incongruity to the stern part she played.

She told me some years later all that passed between them.

The Count had joined her in the *salon*. The great room was only lit by a few wax tapers which she had kindled to assist her in searching for a book. He had the gambler's white face, the whiter now for fear, which she knew well enough. Her colour must have been heightened driving along the snowy quay, where an icy wind blows all the winter; but he did not notice her beauty. He said

he must have eighty thousand roubles before morning or he would shoot himself. Her fortune had been nearly exhausted by similar though smaller demands; and she had given him solemnly to understand that she would not imperil the future of any children she might have by further acquiescence; she reminded him now of her warning and of his promise to apply to her no more.

He could not believe in her firmness, and reiterated the claims of such indebtedness on his honour.

"I cannot help such honour," she replied.

"I must sacrifice my honour or my life."

"You must decide," she said.

Then the costume she was wearing seemed to strike him: he stepped up to her and threw back her furs.

"You play Marguerite," he said. "You win applause by personating the divineness of love; let us have a performance for once of that sort of thing at home: make a Faust of your husband! That's hardly, I dare say, a stage idea, but then I don't ask you to poison your mother or have your brother stabbed, so I might serve, though a lover is, of course, more popular; be my Marguerite, *ma mie;* you don't love me, I know, but you might do this favour for some you love less."

"I do not love you, Peter Petrovitch," she said, drawing back from his suggested caress; "I could more easily refuse you now if I did."

He tried coarseness then.

"So the lover *is* more popular: we can wear these pretty little disguises for other Fausts than we've played with, eh? 'He never wore the devil's feather, that was not devil altogether,' as the song says. Aha!"

What she answered I do not know, it was sufficient to awe him into silence. The dirty tongue of St. Petersburg slander had never slavered on her fame, nor, with all the world against her, has it dared to do so since.

He dropped again to grovelling entreaty, prayed her to hear him by the memory of his father, for the credit of his house, even, so incontinent were his thoughts, for the sake of her children that might be: he knelt before her, calling on every god he knew of to

bear him witness in a thousand falsehoods ; flung himself down upon the floor, kissed her feet, and vowed he would not release them till she should relent. She standing all the while, motionless, frozen there with horror, with pity, with her own resolve ; the white stole she wore, symbol of woman's weakness, of a woman's too trustful affection, increasing, doubtless, the bitterness of her rebuffs.

What a picture it must have made. The great gilded room, only the distances and dreariness of it to be seen by the ghostly reflection of those few tapers, echoed faintly among the immense mirrors ; the woman's supple figure wrapped in thick furs, thrust open now from throat to waist, above the white vest ; the rich colour in her cheeks still touched with rouge ; her wonderful eyes wide with misery ; poor Gretchen's light flaxen tresses covering her own dark hair—a statue of immutable decision. Moving in the darkness beneath her the grey face of the man at her feet, that being all to be seen clearly of him writhing there upon the floor.

The struggle lasted some time ; then he got up, looking, in all likelihood, pitiable enough, for he was going, as he knew, to his death, and the pathos of that journey is powerful even when brave men take it. He turned at the door for a last appeal, made with surprising dignity : he looked at her, but could not quell her eyes, and said :

" I go from you to die, *ma chère.*"

She stood there, still silent, unmoved ; and so they parted. The dark winter's day of the North, where night and day differ only by the depth of their shadows, had begun ; and three hours of it sufficed the Count to set his house, chiefly debts, in order ; then he sat down, smoked a cigarette, and blew out his brains.

Nothing of the cause of his death need have been known had his wife so chosen, she alone could reveal her share in it, and alter the shrug of pity for one more self-slain gambler into the gesture of disgust at the mention of his murderess. " Poor fool," they would have said. " Poor fellow," was what they did say ; his wife won him at least that mitigation of epitaph without altering his intent.

Concealment, the need and sense of it, was quite foreign to her soul : she had faced her conscience, she could confront the world, and she did so. The result to her was deplorable, for the world, in

its sorry fashion, finding a nature strong and pure enough to be above fear, put what distance it could between them : the example was set by the Court, and that example was, of course, to be copied.

The change made thus in her life must have been keenly felt, more perhaps for its reason than by it results, but did not alter her living : she neither made overtures to Nihilism nor adopted religion: as a widow she could take no part in receptions, and before her mourning was over she was gone.

It was on her return that she suffered most from the coldness of those who had been once so warm ; but while, if any pitied her, she acknowledged her lost position with regret, she made no effort to regain it. In Russia everything comes to him who waits—at the foot of the back stairs—and the post is too extensively patronised to be considered degrading ; but the Countess would not have lifted an eyelid to recover in that way her former dignity and delights. She retained the same serene perfection of manner, though she smiled a trifle more sadly and was somewhat given to reverie, made an amusement out of hard work as before she had put real labour into her play, but did not let frowning fortune find any reflection in her face.

Time has now in measure made amends. The dead we have always with us, but the living, and especially the talented living, not for long. The memory of the Count's death declined, and it came to be remembered that his wife had once been as brilliant a factor in social pleasures as he had been the reverse : the Court proscription was relaxed, the lesser doors were thrown open at once to admit her, the greater followed, one by one ; and, although there are still houses in the capital too strict to receive her—that of the Princess D., for instance, who does not scruple for private aims to dispute the legitimacy of her own family—the Countess Platoff has re-ascended the pedestal from which, with such inclemency, she had been cast, and has made her bow once more before the magnates of her people, with that smile of mysterous futurity upon her face which it is as difficult to forget as it is to fathom.

FRANCIS PREVOST.

ON THE RIGHT OF REVOLUTION.

LONG and bitter experience has convinced me that it is utterly useless to argue with people who refuse to see what they cannot possibly avoid seeing, because such persons are swayed in their judgments, not by a sincere desire to arrive at the truth, but by the resolve to defend at all costs their own position, past and present. To reason with such individuals is as vain as it would be to attempt to demonstrate to the satisfaction of an architect who, having built a house—the pride and triumph of his life—has made the horrifying discovery that its angles were not right angles, but cannot and will not admit that a right angle is an angle which is measured by an arc of ninety degrees.

To him it is of the utmost importance that the angles of his house should be recognised as right angles, and, blinded by this desire, he, a reasonable, serious man will not, nay cannot, understand the properties of a right angle. Now the objections urged by such a man against genuine right angles, for the purpose of proving the claims of obtuse and acute angles to be admitted to this category, differ very little from the objections which I continually hear put forward against the undoubted moral truth, that evil should not be resisted by violence; and these objections are offered by two parties diametrically opposed to each other—the governmental-conservative and the revolutionary.

One party began by drawing an obtuse angle, whereupon the other must needs record its protest forthwith by describing an acute; both of them, meanwhile, being greatly incensed against each other, and still more against the square that informs them that they are equally far from the object they profess to have in view —the construction of a genuine right angle. In spite of the dead weight of the evidence, and in spite of their own better knowledge,

revolutionists stoutly proclaim the rectangular properties of an angle drawn by themselves which manifestly differs from a right angle, the properties of which they are perfectly familiar with. It would be lost time, therefore, to set about demonstrating the truth of a thesis which they themselves know to be irrefragable. I would ask them, however, to doubt for a moment that everything they have hitherto done is exactly what should have been done, and that what they further propose to accomplish in the future is the one thing needful and right. From this abstract point of view, then, I should like to say a few words about their arguments, some of which lie before me in a private letter addressed to me by an unknown correspondent, who evidently sympathises with their views.

These arguments are all reducible to the proposition that man is warranted, and even morally obliged, by his love for mankind, to kill his fellows, in virtue of those mysterious, or perhaps intelligible, considerations which have always impelled men to slay other men, and in the name of which Caiaphas proclaimed it far more advantageous to kill Christ than to consent to the destruction of an entire nation.

The conclusion of all these considerations and formal arguments is that murder is justifiable: and the people who advance and believe this proposition actually wax indignant at the thought that there are some persons who maintain that it is never lawful to kill; just as I have met with men who are shocked and indignant with those who assert that wives and children should never be beaten. Humanity lives and progresses, and its moral conscience grows with its growth, reaching various stadia in its onward journey, whence it clearly perceives, first the ethical impossibility of devouring its own progenitors, then the impropriety of killing off its superfluous offspring, later on the folly of putting its prisoners to death, afterwards the absurdity of keeping slaves, then the senselessness of endeavouring to reconcile the members of its families by beating them, and later still—and this is undoubtedly one of the greatest and most important of all the results obtained by humanity—the impossibility of obtaining or even contributing to the general happiness by means of murder or any other kind of violence. The consciences of some people have already reached

this phasis of development, while those of others are still on their way thither.

It would be a vain task to attempt to bring conviction to the mind by dint of mere argument. How forcible and cogent soever the process of reasoning may be by which a person endeavours to convince me that I have it in my power to purchase boundless happiness for my children and for mankind generally by educating my son with the help of the birch, I cannot possibly bring myself to strike the bargain, no more than I can be guilty of murder; and to argue the matter would be as vain as to beat the wind. One thing, however, I may with propriety point out, namely, that it behoves those who have accepted a brief for the cause of violence, especially of murder, to say as little as possible about love, just as it beseems those who undertake to show that the acute angles of their edifices are right angles, to make little or no allusion to the perpendicularity of the sides—seeing that otherwise they are merely refuting themselves. But if love be once imported as an element into the question, no number of examples of brigands and cut-throats will suffice to demonstrate the necessity of killing a human being; the only thing they can serve to make clear is the necessity of adopting the simple and direct line of action prescribed by love, viz., that a man shall defend his fellow with his body, laying down his life for him, but not that his obligation is to take another's life. The fundamental commandment of Christianity is love, and it is a grave mistake to suppose that its universality can be restricted, or its operation suspended, by any other commandment. Take, for instance, the commandment to abstain from swine's flesh or the prohibition to kill. It is perfectly conceivable that circumstances may arise when the former may not be in harmony with the commandment of love; because love is not its object; whereas the latter is simply the record of the phasis of ethical development which mankind has reached in the work of defining love. Love is a dangerous word to play with. The most wicked actions are prompted by "love" for one's family; still worse deeds are inspired by "love" of one's country; and the most blood-curdling horrors of all are perpetrated in the name of "love" of mankind.

It is notorious that love confers upon human life all the significance the latter possesses; but what, one may ask, is love? The wisdom of mankind is eternally grappling with this momentous question, endeavouring to solve it according to the means at its disposal, and always negatively by way of elimination, *i.e.*, the fact is elicited that that which was regarded hitherto as love, and which had sailed under these colours, is not really what it professes to be, and must no longer be treated as love. Thus, to kill people can hardly be described as love; to torture them or to beat them, no matter in whose name or under what specious pretext, nay, even to prefer some people to others, is not love. Now the commandment forbidding us to resist evil by violence defines the limits beyond which the action of love ceases. In this work of elimination and definition there is always room for a movement in advance, but none for a step backwards. Those revolutionists who have satisfied themselves that the true meaning of human existence lies in spending our lives in the service of others, in the name of love, cannot with good grace or consistency give vent to indignation or dissatisfaction when this commandment of love is put before them as a finger-post to guide them on their way. To be angry at being thus shown the straight and sure way of saving mankind is, under such circumstances, as unreasonable as it would be for a sea-captain to feel irritated because the buoys and floating beacons show him his way between the shoals and hidden rocks. "Why," he asks, "these restrictions and limits? May I not possibly find it advisable to run my ship into a sandbank?" Now this is exactly the position taken up by those who fly into a passion when told that it is not lawful to slay a brigand who is himself about to kill them or someone else. "Well, but suppose it is absolutely necessary for me to kill him?" Well, suppose it is absolutely necessary for me to run my vessel into a sandbank? It is quite possible I may strand my ship, but assuredly I cannot feel otherwise than gratified to think that I have a definite course clearly marked out, and I cannot but strive to follow that course with all my strength of purpose.

It has been urged with more ingenuity than truth that as the commandment not to resist evil by violent means is on all fours

with that which forbids us to throw our children out of window into the street, and as it occasionally comes to pass that we have to violate the latter, it follows that the former likewise admits of certain exceptions and exemptions. No one would dream of insisting that it is wrong to forbid people to throw their children out of window merely because it may be necessary to do this at a fire, except those who find it advantageous or lucrative to torture children; in other words, people who follow a profession or calling of which child-torture constitutes an essential element.

Now this is precisely the case with revolutionists; and it is a horrible confession to have to make. Reasonable beings, intelligent and highly gifted men, place themselves in opposition to common sense; sensitive, kindly, self-sacrificing souls stoutly defend violence and passionately plead the cause of murder. Violence and murder shock them, and carried away by their natural feelings, they set about opposing them by violence and murder. This method of procedure, although not far removed from the instinctive impulsiveness of mere animals, cannot, however, be said to be senseless or self-contradictory. But the moment revolutionists or governments undertake to justify such a curious course by arguments meant to appeal to reasonable beings, the utter nonsense of the thing becomes hideously palpable and Pelion has to be piled upon Ossa in the way of sophisms, in order to hide the sheer folly of such an attempt. All the stock arguments marshalled in array, in such cases, are based in last analysis on the hypothetical existence of an imaginary cut-throat, who, possessed of but little in common with ordinary human beings, takes a fiendish delight in torturing and murdering innocent people. It is this demon in disguise, spending all his time and energy in the work of wantonly slaying inoffensive mortals, who is the justification in flesh and blood of the doctrine of violence. Now it will not, I am sure, be denied that this murderous cut-throat is a most exceptional, and I think I may even go so far as to say an impossible phenomenon: many persons may live a hundred years, as I have lived over sixty, without having ever once come in contact with this fabulous monster, when engaged in his diurnal work of slaughter. Why, then, should I, or any other reasonable being,

base my rule of life on this wretched fiction? Putting aside such myths, however, and looking calmly at the realities of every-day life, we observe something very different from all this: we see men —aye, and ourselves first and foremost—continually committing acts of the most refined cruelty, and in the first place, not single-handed like the fabled cut-throat, but in close alliance with other people; and secondly, not because we are brutes, but simply because we happen to be under the degrading influence of erroneous ideas and exposed to the temptations they engender. Nor is this all; passing in review the multiform phenomena of human existence, we cannot fail to perceive that the most shocking cruelties they have to show—bloody battles among men, destructive dynamite, the gallows, the guillotine, penitentiaries on the solitary system, property, the law courts, authority in all its Protean forms and with all its wide-reaching results—were called into existence, not by the imaginary cut-throat, but by the very people who found their rule of life on the hypothetical existence of this impossible human monster.

They who contemplate life, therefore, as it really is, cannot be blind to the fact that the cause of evil among men is not contained in the mythical cut-throat, but in the errors of mankind generally, and in their own delusions in particular, one of the most baneful of which consists in the endeavour to ward off an imaginary evil by creating a terribly real one. And having once admitted this fact, they would naturally feel impelled to turn their attention to the removal of the tap-root of the evil—the sweeping away of their own erroneous views as well as those of their neighbours; and so doing, they would with difficulty comprehend why it was that they formerly needed to feed that activity with a fiction about a cut-throat with whom in all probability they would never come in contact. And even supposing this bugbear to be a fact instead of a fiction, it still remains true that if a person with such dispositions were to meet with a desperate ruffian of the character described, he would in all probability demean himself towards him in a spirit very different from that of the man who, having never seen a murderous cut-throat, had spent all his life in hating him.

L. TOLSTOI.

GUY DE MAUPASSANT.

A SKETCH.

MAUPASSANT is still young, he was born about 1849. More of what is banal and ephemeral about him—his successes, and his adventures—are known than what so highly honours him namely, his private life. One of his former chiefs (Maupassant began as private secretary in one of the *Ministères*) said of him: "He has never been guided in his social relations, but by tact, affability, and generosity." Maupassant's beginnings were very modest, his official salary in 1872 not rising above 1,800fr. a year. The compensation for this was, however, a certain amount of leisure, which enabled him, after office hours, to pursue his literary labours. The difficulties of helping to maintain a home were great, notwithstanding which our author's respect for his pen never swerved, and he waited to make his *début*, till his master Flaubert was satisfied with his productions. Flaubert lived near Rouen, Maupassant's family not far from that town. From childhood the great man had tended the boy's mind—setting him certain themes to exert himself upon. "You will go to such a street where you will see a *concierge* and his parrot; you will then write down what you saw and tell it me," and till Flaubert pronounced, "Now *I see* the picture," Maupassant had to work and destroy. From the appearance of *Boule de Suif*, that is to say about 1878, success came to him untiringly. Our author then began that life of personal experience which he is now paying so heavily for. It should be remembered, however, that whilst the common lot of men go uselessly through the same personal experiences it is the privilege of talent only to turn these same experiences into fertile literary productions. And few men, be it

said to Maupassant's honour, keep after their experiences to that strong and lofty filial duty out of which was written *Pierre et Jean.* We shall, however, return to *Pierre et Jean* later when we have first skimmed through some of Maupassant's short stories, where he becomes unconsciously a rival of Mérimée and of Balzac. In the volume entitled *Clair de Lune,* La Reine Hortense exhibits the highest knowledge on the author's part of that firmness of will and dignified endurance which are so characteristic of the Frenchwoman. At Rueil lives a tall, gaunt, severe old maid. Her martial demeanour towards a herd of divers animals over which she reigns has brought upon her the name of Reine Hortense. She falls ill, and only through delirium does the leading sorrow of her life express itself; for through unconsciousness she calls to a husband and to a host of children. Husband and children are both the mere outcomes of a deep-rooted anguish and sorrow. Her life has been one long effort at disguising what her secret wishes were, and now that she controls herself no longer this wish expresses itself, and the horror of her solitary life is made evident by this outburst of nature! Solitude of heart has been to the miserable Hortense the unbearable burthen, and as she is about to die will and effort have been overcome by fever—Nature has the last word above conventionality!

In another of Maupassant's tales we find *L'Infirme* just as ironical in its conclusions as Reine Hortense, though far less heart-rending, for this time the sacrifice is voluntary and the broken-hearted man rises by self-denial. We see a victory, not a defeat. "L'Infirme" is a very perfect miniature of the noblest type of the Frenchman, of that type where strength is accompanied by outward gentleness, and where virtue is clothed in grace of manner and personal charm. Two men going to St. Germain get into a railway carriage. One is a magistrate, the other was a captain in the army. They had formerly been acquainted, but had lost sight of one another. After being wounded, the officer has left the service. He is plethoric like one who lacks proper exercise. His face, though bloated, still retains beauty through the nobility of features and expression.

As "L'Infirme" gets into the carriage his valet helps him to

place a number of parcels. "There are," says the servant, "five *paquets*—the bonbons, the doll, the drum, the *pâté*, the gun." Furnished with these materials, the magistrate builds up a story. 'When I used to know him," thinks he, "he was a fine man, a brilliant officer, engaged to Mlle. de Mandal. She has evidently married him, spite of his wooden legs." On the strength of this story, which he is entirely building up for himself, the magistrate asks the officer whether he is "a father," and gets his whole fictitious building blown up at once. Mlle. de Mandal has become Madame de Fleurel, and is not in any way to be coupled with "L'Infirme." It is a wife's duty to live every hour of her life by her mate, and "L'Infirme" declares that his own irritation against himself when he hears the clap of his sticks on the floor is far too great for him to think of getting a woman whom he loved to share life with him. "Any form of sacrifice," says "L'Infirme," "is acceptable for a time, however long; but it should be for a time only, not for life." As both men arrive at St. Germain the door is thrown open, and besieged by M. and Madame de Fleurel and by the Fleurel children, who all encircle "L'Infirme," it is evident that the lover of yore has now become the friend. The halo of accomplished self-sacrifice is around "L'Infirme," and makes this tale one of the most noble and pathetic.

Turning to quite a different note, we will sketch out *Le Retour* and *L'Abandonné*, two of Maupassant's deepest short stories. *Le Retour* is drawn from low life among silent and undemonstrative peasants. *L'Abandonné*, on the contrary, is taken from society, where words and actions are the means only of concealing thoughts.

Madame de C. has an *ami*, who some forty years ago became the father of her son. Tied legally by marriage, Madame de C. cannot recognise her illegitimate son. She wishes, however, to see this son before she dies. He has been torn away from her since the day of his birth. One very hot afternoon Madame de C. starts with her *ami* to reach the farmhouse where this son of hers lives. The farmer's wife, *une femme à la figure débois*, receives her grumbling. Whilst the *fermière* is arguing, urging Madame de C. to take her departure, the farmer passes by, his head buried in his shoulders, dragging a cow behind him and emphasising the animal's

obstinacy by a tremendous oath. Madame de C., who from sheer exhaustion has fallen upon a seat, grasps at her *ami's* arm.

"It is *he*," says she, "it is our son! Is that what you have made of him? Let us go! Come away; I cannot bear this." "I settled a farm with 80,000fr. on him," answers the friend. "Many a legally born son of a *bourgeois* would wish for the same." And father and mother both rejoin the husband, who seeing them coming, calls out: "Well, my dear . . . I hope you have had a sunstroke!" "No, indeed, a delightful walk," says the friend.

In *Le Retour* the scene is among peasants, whose impassibility is real, not feigned; for the peasant not only feels less acutely than educated mortals, but he ignores the means of transmitting his emotions even when he experiences them. He is like a substance without a shadow. If he feels a shock there is no outward rebound; if he suffers he knows not how to depict his pain. His joys or his grief ignore the "play" which in the educated being is often the unconscious echo of stage remembrances. Trained from her earliest infancy by sheer imitation of her elders to put her facial expression in harmony with the sentiments she wishes to convey, the woman of the world is an actress whose movements complete her thoughts.

In *Le Retour* a man called Martin is lost at sea. His widow, the mother of two children, marries another sailor, by name Lévesque. Twenty years elapse, and one day the wife is troubled by the persistence of a beggar at her door. In the evening Lévesque returns from his day's work, he speaks to the beggar, who turns out to be no other than Martin, the former husband. Both husbands agree to go to the *curé*, no small indication this, on Maupassant's part, of the great prestige still held among peasants by the priest. No less a trait of peasant physiology is the attitude of the woman, who, in point of fact, falls in the arms of Martin, calling him, "Mon cher homme!" whilst at the same time she remains devoted to Lévesque. The *curé* lives at the other end of the village. On their way they enter the *cabaret*. There both husbands tarry sufficiently long to agree that lawsuits are costly, and that the *curé's* decision might lead to a *procès*. A pleasant state of friendship between the two husbands is, therefore, determined upon by both men, and the story closes upon the true and characteristic ejaculation of a

peasant recognising Martin after twenty years. "Tiens, c'est tè!" (*tè* being the *patois* for *toi*). That is all, but coming from a French peasant it is enough, as it implies all in the way of queries and wonderment which it withholds.

Maupassant's picturesque *récits* about Africa and Arab women are in no way less interesting than his stories, but as space ties us to his psychical studies above all we will end our quotations from his "short tales" by one of his last, *L'Inutile Beauté*. The Comte de Mascaret has married a penniless and lovely girl. His love for her is of the realistic sort. From jealousy principally, and to fix her at home, he has made of his wife a slave to maternity. In the space of eleven years she has had seven children; but she takes her revenge. "Your conduct has made me hate you," says she to her husband, "and I have had my revenge against you. I swear solemnly by the heads of my children, that one of them is not yours—you shall never know which!" M. de Mascaret begins to suffer torture, he neglects his wife; his club friends remark that he looks like one eaten up by a secret sorrow. After six years' martyrdom, during which he never goes near his children without the horrible thought that one of them is not his own, he entreats his wife to take pity on him. "For mercy's sake, tell me which is not mine? I will swear to love him as the others." "I told you a lie," replies his wife; "I never had a lover. I have always been faithful to you." This only aggravates matters, as now the husband is at a loss to know which statement he can rely upon. The suffering he undergoes is so evident that the wife is touched, moved to pity, and says: "I see that you have suffered enough. I assure you I am now speaking the truth. All these children are yours. But had I not acted in this way, I should by this time be the mother of four more! Women are members of a civilised world, and we decline to be treated as mere females to repeople society!"

As she spoke he felt instinctively that the woman who thus addressed him was not made solely for the sake of perpetuating the race, but that she was as well a strange, unfathomable outcome of all the complicated desires amassed within us through centuries of time, that she had diverged from the primitive and Divine intention of her existence, and was developing a mystic and inde-

scribable beauty, such as we dream of, surrounded by all the poetry and ideal luxury with which civilisation endows her, a statue of flesh, appealing to the senses and yet ministering to the mind. And emotions filled the husband's breast far more stirring than the old simple form of love.

Pierre et Jean and *Fort comme la Mort* are the author's masterpieces. Let us speak of the former work.

Madame Roland has two sons—Pierre, the elder, a doctor; Jean, the younger, a lawyer. As to M. Roland, he is a mild grotesque, given up exclusively to the seafaring mania, and keeping a boat, with one boatman as his "crew." One fine day, unexpectedly, Jean is advised that an income of 20,000fr. a year has been left to him. Rejoicings on this account are high in the Roland family, till an old druggist strikes a knell in Pierre's heart! This inheritance, according to the druggist's views, is so detrimental to Madame Roland's past that Pierre, who worships his mother, is brought to actual despair. Pierre now remembers M. Maréchal, the testator, and gradually becomes his mother's spy. One day when Madame Roland is gazing at Maréchal's miniature she sees herself watched by Pierre—hence she knows him to be possessed of her secret. Progressively the relations between Pierre and his mother become so strained that the unfortunate woman clings violently to her younger son. The very day when Jean takes up his abode in new rooms, where he has installed his legal practice, Pierre, unable to control his sorrow any longer, tells Jean plainly that he is living on the proceeds of his mother's shame. Madame Roland, concealed in the adjoining room, hears everything; she throws herself on her younger son's bed and swoons. The ensuing scene between Madame Roland and Jean is of the deepest pathos. "If you cannot look upon your poor father as my true, my only love, leave me!" Pierre's reprobation haunts her, she cannot bear it any more.

Pierre is made to undergo nothing but trouble, whilst Maupassant bestows on Jean, the inferior mortal, every happiness that fortune, love, and maternal affection can bring. Pierre goes off as a doctor on an American steamer. His mother is relieved at his departure, and none regret him—not even the Polish chemist, Markrosko, who, having counted upon him to help his trade,

only rages against his departure. Pierre's further attempt to raise some regret in a girl he had once loved, only brings him her felicitations for going to America. "A beautiful country, as I hear," says she.

Next to *Pierre et Jean*, *Fort comme la Mort* is certainly Maupassant's *chef d'œuvre*. The painter Bertin has become famous after painting the portrait of Madame de Guilleroy, one of the most elegant women in Paris. He falls in love with her, and struggles bravely with his passion, whilst she on her side never comes to the sittings but accompanied by her little girl. She tries to frighten away love by making fun of it—asks Bertin "How fares his passion?"—in fact, has recourse to light gaiety, till one day passion is strongest, and . . . when she drives out of the *atelier* (having that day been unable to bring the child) she feels her life is given for ever to Bertin. If she ceases the sittings her husband will wonder, so she bravely goes back the next day and asks Bertin to forget. . . . She promises she will try to do so herself. The painter submits . . . and long remains in the bonds of distant friendship; but *she* feels what he is undergoing, and enters with him into a *liaison* which never swerves one instant on both sides for above twelve years. Guilleroy swears by Bertin, and Bertin never during these years looks at any other woman but the Comtesse. Nanette, the little girl of fourteen years ago, is now a woman. She is "presented" and "betrothed," and her likeness to her mother is still enhanced by her being in mourning, as Madame de Guilleroy had been when she first met Bertin. When Nanette stands under her mother's portrait it is obvious to all that she is its model. Without analysing his emotions, Bertin strangely feels himself becoming younger. At one time he used to suffer cruelly from his solitude at home . . . But time had diminished that feeling. Now all at once he begins to feel the same again. He wishes "she" was ever with him and that he could always hear this crystalline voice. (Nanette's voice and her mother's, like their faces, being mistaken for one another.) Bertin, seated in the Comtesse's boudoir, watches her and Nanette close to each other under the lamp shade, and the thought of his solitude becomes more and more oppressive. As he gazes at Madame de Guilleroy his heart is filled with the

words of former days, which he would like to utter now. He wishes she would send the girl to bed, for his heart has suddenly leapt back fourteen years, and he wants to give her fresh happiness.

Suddenly the Comtesse is summoned to the country to her mother's deathbed. Tears and sorrow make her believe that she has lost her beauty, and she reaches such a pitch of anxiety on that subject, that, madly frightened at the arrival of Bertin, she takes refuge in her boudoir instead of meeting him at the train, for fear of the indiscretions of broad daylight. Once back in Paris, this anxiety becomes a fixed idea. She will gaze and gaze at herself in the mirror, breaking her own heart over the sad inspection of her wrinkles. At night she lies awake; rises, to begin again the perusal of this sad, lovely, careworn face, dreading that insomnia may only add to the havoc. She prays, kneeling before a crucifix (a gift of Bertin's), that respite shall be granted. Many and many women have been allowed to remain long beautiful. Why not she as well? With a woman's tact she has discovered the nature of Bertin's sentiments towards her daughter, but she forgives! She even pities Bertin! One day, overwhelmed by feeling that he has grown old, and desperate because he cannot get the better of his love for Nanette, wounded to the quick, moreover, by a critique in the *Figaro*, Bertin puts an end to his life, and the Comtesse, summoned in time, receives his last words.

This story of a love equally long and profound on both sides is dignified and interesting. Though Maupassant's heroes generally submit too easily to the call of their nervous system, *Fort comme la Mort* gives no instance of this habitual weakness.

Our author's last book, *Notre Cœur*, is the story of the moral rise and fall of a lover whom a coquette raises for a time above mere pleasure, and who, deceived by his mistress, falls back to Anacreontic devices. Why all of a sudden society should have been so severe upon the lover in *Notre Cœur* is a matter of great wonderment. There is a little book called *Le Lys dans la Vallée*, a marvellous little book, in which Balzac took up the sketch of a certain Beaumarchais and made a portrait out of the mere outline of the "Comtesse" (*Mariage de Figaro*). In that wonderful little book one sees a highly respected man of the world resort for ambi-

tion's sake to the same derivative as the hero of *Notre Cœur*. Félix de Vandenesse, the personage of Balzac, is and remains, notwithstanding his failings, favourably regarded by the reader; why, then, this great severity for Maupassant's personage in *Notre Cœur?* Why?

Who knows, after all? French morals are perhaps, more in the ascendant than is generally credited; but Maupassant's art is our purpose, and his art is, more than that of any of his contemporaries, the outcome of his own nature, of a nature expressing the temperament of his time. Loti is the poet of "romanciers," Zola is the Darwinist, Maupassant the physiologist, the man of the amphitheatre, the surgeon who, after cutting through the outer envelope, carefully handles one nerve after the other, measuring, studying, weighing, appreciating the value of the unity upon the group, the reaction of the local phenomena upon the whole system. Like Bourget, Maupassant is the "romancier-médecin," the man of prompt diagnosis, the real exponent of his time, which is in France the age of science!

Maupassant, in a word, is the "artist" as well as the "scientist," and his success comes to him, according to Madame de Lafayette's saying, still more from "what he is than from what he does." His gifts are as abundant as his acquirements, for "he knows as much as he guesses."

YETTA BLAZE DE BURY.

PHOTOGRAPHY OF THE HEAVENS.

THE International Photographic Congress, organised several years ago by a group of astronomers for the purpose of applying photography to the study of the stars, met recently for the third time at the Paris Observatory and agreed upon the latest arrangements for photographing the heavens.

The idea of applying photography to the curious things in the sky came to light on the very day when the great discovery of Niepce and Daguerre was publicly announced in the memorable account which Arago gave of it at the session of the Academy of Science, April 19th, 1839. The illustrious astronomer, perceiving at once the many and diverse uses to which the discovery could be put in astronomical research, pointed out among other things the possibility of obtaining a good map of the moon, and a perfect representation of the solar spectrum. But the methods of photography at that day were too crude to admit of securing satisfactory results.

However, about the year 1845 Sizeau and Flaucault contrived to take an excellent photograph of the sun in 1·6 seconds, a very fine engraving of which may be found in Arago's complete works. In 1849, William C. Bond, an American astronomer, obtained a good Daguerreian proof of the moon. The eclipse of the sun on July 28th, 1851, was photographed by Berkawski, at Koenigsberg, upon a Daguerreian plate, which disclosed for the first time traces of the corona that envelops the star of day, and the eruptions that emanate from its surface.

In 1857, Bond obtained a very clear photograph of the double star Mizar and Zeta in the Great Bear, as exact in truth as the micrometric measures, for I have been able to insert it as a

document in my catalogue of double stars. It was at the Harvard College Observatory that these first photographs of stars were made, and it is there to-day that Professor Pickering obtains such marvellous results that in themselves they appear at least to equal all those of the twenty to thirty astronomers composing the European Congress.

Mr. Warren de la Rue, in England, and Mr. Rutherfurd, in the United States of America, obtained magnificent photographs of the moon between 1857 and 1867 that have not yet been surpassed. Let us note among these photographs some startling stereoscopic views that show the lunar globe so much in relief that it has almost the form of an egg. This effect, somewhat exaggerated, is due to the advantage taken of a certain movement of libration in order to penetrate more or less satisfactorily the invisible hemisphere of the moon. Warren de la Rue, to whom we are indebted for these stereoscopic photographs of our satellite, succeeded equally in obtaining views of the planet Jupiter with an exposure of twenty-six minutes.

M. Flaye, in France, has been one of the most ardent advocates of astronomical photography. Insensibly, despite the opposition of astronomers who were first of all mathematicians, photography made a place for itself among the processes of the study. It was applied with the greatest success in observing the transit of Venus in 1874, and again in 1882. In 1877, M. Yanssen, at the Observatory of Meudan, obtained admirable photographs of the solar surface, upon which the observer seems to assist, so to speak, in the phenomena of the formation of light. These photographs of the sun are almost instantaneous, for they are taken in a half one thousandth of a second. In 1884 MM. Paul and Prosper Henry, while making maps of the stars for the atlas of the Paris Observatory, set themselves to substituting photography for direct observation, which at the time was much more expeditious and certain. At the same time, and afterwards, Messrs. Pickering in the United States, Gould in the Argentine Republic, Gill at the Cape of Good Hope, Common and Roberts in England, devoted themselves with the best success to the practice of celestial photography.

Thus gradually, insensibly, photography came to take a large part in astronomical research. This part from day to day becomes more and more important, more and more fruitful.

It is now proposed actually to photograph the entire heavens, and it was with this end in view that astronomers organised the International Congress, which met first in 1887, then in 1889, and again last April. In its recent session the Congress paid attention very largely to technical details. A score of questions were discussed, involving all-important points in the preparation of plates, the processes of taking and developing, of reproducing pictures from the stereotypes, &c., and the methods of undertaking the great photographic work, the division of the zones, and the distribution of definite sections of the heavens to various observatories and observers for their respective fields of labour.

Mague, Director of the Paris Observatory, made a statement relative to the progress made with the instrument which he invented for photographing the heavens, and he suggested the time at which he could begin experiments. Owing to political events in Chili, and troubles in which some other States are involved, it will not be possible for all to begin work at exactly the same time.

Among other things the Congress was concerned with the choice of guide-stars; that is to say, those which must constantly be held at the same point of view in order that every star may be represented upon the map by a point and not by a measurable space. But what limit should be placed upon the distance of the guide-star from the centre of the plate? After much groping about, the Congress decided to leave to each observer a certain latitude, not to exceed forty minutes. Questions of this nature, though secondary, were novel and delicate, and the divergences of opinion brought out by them were inevitable. Many difficulties were suggested that can be solved only by long experience; difficulties that will vary with the physical and atmospheric conditions of the various observatories. A certain liberty of action was therefore left to each observer, the Congress simply determining the end to be attained.

The Congress adjourned, after having made the best arrange-

ments that the present state of astronomic photography allows for a work of gigantic proportions and immense difficulty. We may look forward with no little confidence to the success of this undertaking, which, according to the latest information, will begin in various parts of the world simultaneously during the present summer.

The matter in hand involves the photographing of the entire heavens, and the construction from the results of a complete map which will show the starry firmament just as it appears to the inhabitants of the earth; and this by photography alone, by which errors of observation will be wholly eliminated. We already have a map of this kind, but it is relatively imperfect and heterogeneous. For example, Argelander, in 1862, made a map of the northern hemisphere, showing all the stars up to the ninth magnitude inclusive; and this map registers 324,198 stars, all of which can be seen on the same sheet (see our *Astronomie Populaire*, p. 832). This great atlas of Argelander is one of the most important and considerable works of this century.

Skaenfeld's catalogue of the southern hemisphere gives the positions of 133,699 stars. Mr. Gould, director of the observatory at Cordoba, Argentina, published an atlas of the southern hemisphere some years ago, but it registers those stars only that are visible to the naked eye.

These efforts represent much patient labour, but they can never hope to give what may be expected from unaided photography.

In fact, instead of meridian observations by a great number of observers, all differing one from the other in the recognition of the various magnitudes of the stars, and in methods of relating their positions; instead of innumerable transcriptions, innumerable calculations and reductions, and gathering and disseminating of the information along a long period of years,—instead of this there will be undertaken an exact photograph of the heavens, and this not only of stars up to the ninth magnitude, but those of the eleventh, twelfth, thirteenth, and even fourteenth magnitude; and these lesser magnitudes will not add difficulties further than the exposure of the sensitive plate for a longer time.

Everybody knows that stars beyond the sixth magnitude are

invisible to the naked eye, and that the term "magnitude" applies simply to the apparent brilliancy of the stars, those of the first magnitude being the most brilliant, those of the second a little less brilliant, and so on, those of the sixth being the last that can be seen with the naked eye. Here is a table showing the probable number of stars of every magnitude up to the fourteenth :—

Magnitudes.	Number.
First	20
Second	59
Third	182
Fourth	530
Fifth	1,600
Sixth	4,800
Seventh	13,000
Eighth	40,000
Ninth	120,000
Tenth	380,000
Eleventh	1,000,000
Twelfth	3,000,000
Thirteenth	9,000,000
Fourteenth	27,000,000

The stars of the fourteenth magnitude are visible through the best astronomical instruments. It will be seen that the total of these first fourteen magnitudes exceeds 40,000,000. To try to catalogue this celestial army would be not only a superhuman task, but absolutely beyond realisation ; for errors would creep inevitably into such a number of observations, as well as into their reductions, their transcriptions, and their places upon a map.

Years and years would not suffice, and while the work was in progress the stars themselves would change their positions in space, for each of them is animated by its own motion more or less swift.

Now photography can effect this properly and in the simplest manner, thanks to the perfection to which the art and its methods have been brought. And do you know how long it would take to perform this gigantic task, to erect this imperishable monument of astronomy ? In thirteen minutes ! Following are figures showing

with substantial accuracy the duration of exposure necessary to get an impression of the stars of various magnitudes upon the new gelatine plates:—

Magnitude.	Exposure. Minutes.	Seconds.
First	0	0·005
Second	0	0·01
Third	0	0·03
Fourth	0	0·1
Fifth	0	0·2
Sixth	0	0·5
Seventh	0	1·3
Eighth	0	3·0
Ninth	0	8·0
Tenth	0	20·0
Eleventh	0	50·0
Twelfth	2	00·
Thirteenth	5	00·
Fourteenth	13	00·

Thus five one thousandths of a second are sufficient exposure to photograph a star of the first magnitude, a half second's exposure takes a picture of the smallest stars visible to the naked eye, and thirteen minutes are needed to photograph those of the fourteenth magnitude. A plate 24 × 30 centimetres covers five astronomical degrees. If at a given moment 8,000 telescopes arranged for photography should be opened all over the earth, and turned upon 8,000 points of the sky, all the points being agreed upon in advance, the 8,000 plates would have photographed the entire heavens and registered the 40,000,000 stars of which we spoke above. Placed side by side in their proper positions, these 8,000 plates of five degrees each would represent the 41,000 astronomical degrees of which the surface of the heavens is composed.

This kind of instantaneous photography of the heavens would be ideal, but it would not be possible because, first, at any given moment night extends over less than half the globe; and, second, because the atmosphere is never perfectly clear; and, last, because these 8,000 instruments would involve an immense expense, a matter which it is simpler and more practicable to reduce to a minimum. The work will probably be divided among the following

observatories in proportion to the number of plates set against each :—

Observatories.	Number of Plates.
Paris	1,260
Bordeaux	1,260
Toulouse	1,080
Algiers	1,260
Greenwich	1,149
Oxford	1,180
Helsingfors	1,008
Potsdam	1,232
Rome	1,040
Catane	1,008
San Fernando	1,260
Cacubaya	1,260
Santiago	1,260
La Plata	1,360
Rio Janeiro	1,376
Cape of Good Hope	1,512
Sydney	1,400
Melbourne	1,149

There will be about 22,000 plates of two degrees each, arranged so that their borders shall overlap each other sufficiently to register all the stars without fail and thus in time cover the whole heavens. The work will probably be completed in five or six years.

Thus nineteenth century science will bequeath to posterity an invaluable and imperishable statement as to the sidereal heavens which in future centuries will serve as a certain basis for the solution of the great problem of the constitution of the universe.

The human eye certainly is an instrument admirably adapted to its purpose. How transparent is this living crystal, how delightful are its hues, what depth it has! what beauty! It is life, passion, light! Close the eyes, and how much of the world remains?

And yet the lens of a photographer's camera is a new eye that gives the finishing touch to ours, that surpasses it, that is more marvellous still.

This giant eye is endowed with four important advantages as compared with our eye: it sees more quickly, further, longer, and, inestimable faculty—it fixes, prints, preserves what it sees.

It sees more quickly: in the half thousandth part of a second it photographs the sun, its spots, its whirlwinds, its flames, its mountains of fire, in an imperishable document.

It sees further: turned at darkest night towards any part of the heavens whatever, it discovers, in the atoms of the infinite, stars, worlds, universes, creations that our eye could never see by any possibility, no matter how powerful a telescope were brought to bear.

It sees for a longer time: what we cannot contrive to see after several seconds of attention, we can never see. This new eye needs but to look sufficiently long; at the end of a half hour it will distinguish what it did not see before; at the end of an hour it will see better still, and the longer it remains directed towards the unknown, the more completely will the eye possess it, without fatigue and always better.

And it preserves upon its retinal plate all that it has seen. Our eye retains images but an instant. Suppose, for example, that you kill a man at the moment when, quietly seated in his chair, he has his eyes open and directed towards a bright window. (There is nothing improbable in the supposition upon a planet where all the citizens are soldiers and kill each other in all manner of ways at the rate of 1,100 daily.) Then suppose that you tear out his eyes (I should have said that the hypothesis involves dealing with an enemy), and that you immerse them in a solution of alum; these eyes will then retain the image of the window with its transverse bars and its light spaces. But in a normal state of things our eyes do not retain images—there would be too many of them, besides. The giant eye of which we speak holds fast everything it sees. Its only need is a change of the retina.

Yes, the artificial retina sees more quickly and better. And, by virtue of a property wholly lacking in the human eye, it penetrates abysses where we do not and never could see anything. This is, perhaps, its most astonishing faculty.

Place the eye, for example, at the eye-piece of a telescope whose object-glass measures thirty centimetres in diameter; such an instrument is the best for practical observations.

With this glass of thirty centimetres diameter and three and a-

half metres in length, we may discover stars to the fourteenth magnitude, that is to say, about 40,000,000 stars of all kinds.

Now replace our eye by the photographic retina. Instantly the most brilliant stars beat upon the plate and mark their likenesses there. Five one thousandths of a second suffice for a star of the first magnitude, one hundredth for those of the second, three one hundredths for those of the third, and so on, according to the proportions expressed above.

In less than one second the photographic eye has seen all that we could perceive with the naked eye.

But this is as nothing. Stars visible only through the telescope also come and beat upon the plate and thereon inscribe their images. Those of the seventh magnitude take a second and a third to make their impressions on the plate, those of the eighth need three seconds, those of the ninth eight seconds, those of the eleventh fifty seconds, those of the twelfth require two minutes, those of the thirteenth five minutes, and finally, those of the fourteenth thirteen minutes.

If we have left our plate exposed for a quarter of an hour we shall find photographed upon it all the region of the sky towards which the telescope was directed, all that this region contains, all that we could have contrived to discover with infinite difficulty by a series of very arduous and long-continued observations.

But we have merely entered upon the marvellous.

Let the photographic eye continue to observe in place of the human eye; it will penetrate the unknown. Stars invisible to us become visible to it. After an exposure of thirty-three minutes stars of the fifteenth magnitude will have finished their task of impressing the chemical retina and placing there their images.

The same instrument which to the human eye reveals stars of the fourteenth magnitude and which would register about 40,000,000 stars in the entire heavens, discloses to the photographic eye 120,000,000, including only those of the fifteenth magnitude. It could reach forth to the sixteenth and throw before the dazzled admiration of the observer a luminous maze of 400,000,000 stars.

Never before in all the history of mankind have we had in hand the power to penetrate so deeply into the abysses of the Infinite.

Photography with its recent improvements takes a clear picture of every star, no matter what its distance, and sets it down in a document that can be studied at leisure. Who knows if some day in the photographic views of Venus or Mars some new method of analysis may not discover to us their inhabitants? And its power stretches forth to the Infinite. Behold a star of the fifteenth or sixteenth, even seventeenth magnitude, a sun like our own, separated from us by so great a distance that its light requires thousands, perhaps millions of years to reach us, notwithstanding its unheard-of velocity of 300,000 kilometres a second; and this sun lies at such a depth that its light, so to speak, reaches us no longer. The natural eye of man never would have seen it, and the human mind never would have guessed its existence but for the implements of this modern art. And yet this feeble light, come from so far, is sufficient to make an impression upon a chemical plate which will preserve its picture unalterably.

And this star might be of the eighteenth or the nineteenth magnitude, and beyond, so little that the human eye could never see it, even aided by the most powerful telescopic appliances (for there will always be stars beyond our range of vision); and yet it will come and hurl its slight ethereal arrows on the chemical plate set up to await and receive them.

Yes, its light will have travelled during millions of years. When it started the earth did not exist, the real earth with its humanity; there was not a single thinking creature on our planet; the genesis of our world was in the process of development; perhaps only in the primordial seas that enveloped the globe before the uprising of the first continents, before the primitive, elementary organisms formed themselves upon the bosom of the waters, preparing slowly the evolutions of future ages. This photographic plate takes us back to the past history of the universe. During the ethereal flight of this ray which comes to-day to beat upon the plate, all the history of the earth has been accomplished, and in this history that of humankind is but a single wave, an instant. And during this time the history of the distant sun which photographs itself to-day has been accomplished also; perhaps it became extinct long since, perhaps it is actually out of existence.

Thus this new eye which transports us across the Infinite enables us at the same time to trace the periods of past eternity.

Yes, many of these far-away suns that we are taking such pains to photograph no longer exist. The end of the world has come to them as it will come to us; and the luminous couriers that they sent us before dying travel for ever.

Astronomy plunges us into the insoluble mystery of the Infinite and of Eternity, and therein lies its grandeur.

CAMILLE FLAMMARION.

THE SCIENCE OF THE DRAMA.

I.

TO ensure immediate success in playwriting only two rules need to be observed: "*Don't fog your audience*" and "*Don't bore them.*" And as the latter rule covers the former the science of successful playwriting may be broadly defined as the science of not boring playgoers. But then playgoers have such widely different tastes, and there are so many thousand different and contrary ways of boring and amusing them!

In England at the present moment our theatre-going public is most heterogeneous in its composition. Every audience in every West End theatre will be found to contain a large number of persons whose notion of amusement is as delightfully ingenuous as that of the Olympian Deities who laughed hugely at Vulcan because he was lame. Our own gods still preserve to a great extent these simple tastes. In the same audience will be found a good sprinkling of those latter-day super-subtle pleasure-seekers who do not begin to enjoy themselves until the shades of ugliness and dulness have wrapped them impenetrably round. Vain is it to charitably implore people not to bore themselves, when they reply that in boredom is the very avatar of amusement. It is curious to watch these strenuous efforts to copy the wild asses in the Hebrew prophet, who tried to get nourishment by snuffing up the east wind. Mr. William Archer, in condemning the stage works of Browning and Shelley as dull and impracticable, coined a most felicitous phrase to express the esoteric delight of the audience. He spoke of one of the performances as a *succès d'ennui*, unweeting or unmindful that

destiny was mockingly summoning him to be the evangel of a deadlier dulness, the pilot of a night-foundered mud-barge in far murkier gulfs of gloom.

But leaving out of consideration the extremes of ignorance and simplicity on the one hand, and of eccentricity, perversity, and insanity on the other, and taking a survey of the ordinary every-day English audience at the present moment, it is still almost impossible for a playwright to estimate the immense variety of tastes, prejudices, and sympathies he has to encounter and deal with. The Puritan dread of the theatre is still widely spread and astonishingly operative, and tends to shut out the hope of the immediate foundation of a school of English drama at all commensurate with the strength and depth and complexity of our national character. One has only to compare the recent bitter utterances of Mr. Spurgeon about the theatre, his wholesale condemnation and excommunication of the Church Universal because some parsons go to the play, with the rebuke he administered to his congregation a week or two afterwards for being too respectable and for not winking at anybody on leaving his chapel on Sunday mornings, —one has only to compare these two amazing utterances from the same lips to gauge the terrible depths of absurdity, and prejudice, and unreason into which the Puritan prejudice plunges its victims. It is true that great crowds of raw theatre-goers half emancipated from this prejudice are coming to our plays, but they are coming timidly and fearfully, with cramped and narrowed minds and quite infantile judgments in dramatic matters. We have no great traditions amongst our audiences. We were all of us, authors, actors, and playgoers, brought up in a small, feeble, artificial school. It will take many years to establish a sound tradition amongst the great body of playgoers. Again, the lateness of the dinner hour has squeezed us into a narrow two hours' compass or thereabouts as the average length of a play. From eight to eleven is all that we dare ask. Allowing half an hour for *entr'actes*, and supposing there are twelve personages in a play, this gives us an average twelve minutes and a half to each character, not an immoderate amount of time to unfold the vicissitudes of a life history. And further, the fever and hurry of modern London life, its dull, incessant toil and gloom, have

tended to spread abroad the strangely false idea that the one end of our modern theatre is—not to show us our lives, but—to take us out of them! This view of the stage may be convenient to those writers who will not give the years necessary to observing and painting reality, and to those playgoers who will not give the three hours necessary to contemplating it and understanding it, but its complete acceptance by authors and public is the grave of the drama.

I have hastily recounted one or two of the disadvantages and discouragements that the modern English playwright has to face and suffer from, or conquer if he can. It is pleasanter to turn to the advantages and encouragements. The theatre is very fashionable with the classes; it is immensely popular with the masses. The long years of peace have given abundant prosperity to the country, while the increasing value of time makes it an economy to pack our pleasures into the shortest intervals of our business. If it takes fifteen or twenty hours to read a sensational novel, and only three to see a sensational play, the playwright is clearly a benefactor of the same order as the patentee of a time-saving invention. If it is urged that it would be a wiser economy of time to save the three hours also, with the additional beneficial result of setting free the playwright to pursue some such healthy agricultural occupation as breaking stones or hoeing turnips, then the playwright is surely within his right to resent such an impertinence and to bid the reformer turn his attention to other purely ornamental or wasteful vocations, such as stockbroking, horse-racing, and the promulgation of the tenets of those one hundred and ninety-nine out of our two hundred sects whose doctrines are clearly wrong; though, dramatically speaking, this last reform would be a withdrawal from English life of its one vital, perpetual, and always present element of comedy. I trust no one will suspect me of jesting on so serious a subject as the English drama. If such a trial as that recent one of the Bishop of Lincoln does not prove the existence of a mysterious law of compensation amounting to a special providence, whereby the deficiencies and weaknesses of modern English playwrights in the realm of comedy are continually supplemented and supplied by the extraordinary antics of our spiritual teachers, then I think it

would be difficult for anyone to bring forward a valid proof or a lucid definition of any special providence whatever.

To return. The material prosperity of the English drama was never so great as at the present moment. Such vast crowds have never assembled in so many theatres, and such large rewards of money and popularity have never been showered upon managers, authors, and actors. These crowds are, as I have said, highly composite, being made up of persons of all classes, all ages, all religions, all opinions, all tastes, all grades of general and dramatic education. And they themselves, the final judges and critics of our work, are the subject-matter of it! The wealth of dramatic material in modern English life is prodigious. The dramatist stands overwhelmed before its richness, its variety, its never-ending kaleidoscope. I have just used the word "dramatist" for the first time in this article. The standpoint I have indicated in the last few sentences is rather different from that of the popular playwright. But it suggests the dramatic author's perpetual dilemma, which is this: "How shall I, while writing a play which shall be sufficiently popular to bring in seven hundred pounds a week at least to cover my manager's expenses—that is, which shall attract to some extent all these persons of different tastes—how shall I yet preserve that removed attitude which stands quite apart from all their passions and prejudices, and contemplates them as something external and objective? How shall I get the great body of playgoers or some considerable portion of it to take up, or even to comprehend, this attitude of spectator, which is the true dramatic attitude? They are full of the heat and business of life, they are the actors in the real scene which I am only mimicking; how shall I get them to abdicate their leading parts and step down and become mere spectators?" Imagine this great drama of politics, religion, commerce, philanthropy, marriage, and intrigue, which is being enacted all over England to-day. The only condition upon which a dramatist can make full use of it is that he shall be allowed to stand outside of it, treat the whole of it impartially, and gather around him a sufficient contingent of the public who will also lend themselves to this true dramatic view. The brightest sign for the future of the English drama is the fact that during the last ten years a growing number

of theatre-goers have learned to appreciate this condition, without which no English drama is possible. We are at present in a state of very rapid transition. But no playwright can say to-day what I think he might honestly, though perhaps mistakenly, have said ten years ago, "There is not a large enough section of the English theatre-going public sufficiently interested in dramatic art as distinct from mere amusement, sufficiently adept in that most interesting of all studies, the study of humanity, to make it worth while for a playwright to risk his reputation by attempting to give them a representation of life, instead of the stale devices of the theatre that they are used to, and love so well." No playwright can say that to-day. We have abundant proofs that there is a sufficient section of the public justly resentful at seeing the great drama of humanity used only to set off the petty tricks and artifices of the theatre, justly anxious to see the theatre put in its proper secondary place as an exponent and displayer of its great exemplar, the drama of human life. It all lies in that. We can rely, I think, upon a great increase of this advanced and critical body of playgoers. Upon them largely will depend the future of the English drama: upon their insistence that it shall keep the main highway of sanity, cleanliness, and decency, and not turn up every nasty little dirty lane and alley to rummage its nose in garbage, like a dog with an unclean instinct.

If much may be hoped from the increasing critical power and intelligence and numbers of those playgoers who do know and care, much may also be hoped from the stupidity and carelessness and genial irresponsibility of the far greater number of playgoers who do not know and do not care. In the long run those who do love and know what is right in stage work will have their own way and carry the great careless crowd with them. It is curious to note the recent change everywhere in the expressed opinions regarding the contemporary drama. Such a conception of the drama as is here swiftly sketched, namely, that of a national art, definitely related to the great intellectual movements of our time, dealing largely with large themes and questions of moment, instead of copying certain small silly or funny temporary aspects of everyday life—such a conception was ridiculed and

deprecated and scouted on all sides six or seven years ago. But it is being gradually adopted, and its assumption has been at the root of whatever recent dramatic progress has been made.

It will be noticed that I have throughout steadily maintained the necessity of a considerable amount of popular support as the foundation of any possible school of drama. This implies a large amount of concession and compromise at times. The wise statesman does not attempt to make laws too far in advance of the moral and intellectual condition of the people. Nor does the wise playwright forget that playwriting is very rigorously limited in similar respects. This is, as I have shown, the perpetual dilemma of the dramatist. But he must not disdain to be popular. Playwriting only exists by virtue of immediately pleasing a large section of the public. If it doesn't do this it has no *raison d'être* whatever. There are many disadvantages and limitations in casting a work of art in the form of a play. The one great advantage is that it can be instantly exhibited in the most striking and vivid manner to the populace. Apart from this, it would have far greater influence, and allow its creator a far larger intellectual sweep and flexibility, in another form. Let any playwright, whose vats are bursting with immortal genius which is too good to be tapped at once by some tolerably large section of the public, be earnestly counselled to bottle it and cork it up for posterity in some other than the dramatic vessel.

Shakespeare and Molière are the greatest dramatists of their nations. They are, and were, also its most popular playwrights.

> "The fault, dear Brutus, is not in our stars,
> But in ourselves, that we are underlings!"

I believe it was understood that this paper should deal chiefly with the technical and mechanical side of playwriting. And I started it with some such intention. But the larger issues at stake in the drama carried me aside, and I have not been able to return to my original subject. And it is really of far more consequence that these larger issues should be stated and understood than that the mere petty details of the craft should be exhibited, to nobody's great delectation or instruction. The practical side of carpentering is to be learned by apprenticing oneself to a master-carpenter for

seven years and working at the bench. At the end of the time doubtless much remains unlearned. The practical side of playwriting is to be learned by watching the same plays night after night, and continuing this drudgery for twice seven years. At the end of the time much will remain unlearned. So it was hardly likely I should be able in the limits of this paper to deal exhaustively with the *technique* of my art. I hope I shall be forgiven for dwelling on another side of it, which should be of far greater importance and interest.

"I place the Stage next to the Church," said a lady to me the other day.

"Why put it second?" I asked.

HENRY ARTHUR JONES.

II.

IT is with much diffidence that I express my views on this subject. The contrast between the everyday productions of the practical playwright and the exalted ideals of the theoretical dramatist is apt to be ludicrous; and the institution of invidious comparisons, though unphilosophical, is inevitable. I am, however, encouraged by the reflection that some of the professed critics have occasionally written plays, and I am comforted by the remembrance of some of the plays they have written.

We live in times when the playwright may well be excused if he break silence, for the matters which are being discussed on all hands go to the very root of his science, art, or craft, whichever it may be. But there has lately arisen a new school of philosophers, whose doctrines, if carried to their logical conclusion, would abolish the play proper altogether. These modern theorists contend that the drama ought to be the study of human nature on the stage, the analysis of character, pure and simple—no "plot," there is none in nature—no "situations," they are artificial—no "pictures," they are childish—no "points," they are theatrical. They do not want a story; an episode is sufficient. Even the episode should have no

definite beginning, middle, or end. We may begin with a point of exclamation; we may end with a comma, a semicolon, or a note of interrogation; we may break off in the middle of a sentence; indeed, we may end with anything we please, except a period. "What I want," says one of the ablest of these reformers, "is a chunk of a tree, with the sap in it."

I desire to speak of this new philosophy with the greatest possible respect. Its representatives are men of exceptional culture, great intellectual capacity, and a fervour that is almost apostolic. Moreover, they come to us with a distinct message, which it is well for us to hear. No doubt we have wandered too far from the paths of nature and the realities of life, under the guidance of blind leaders and the thong of tyrant task-masters; but it behoves us to beware lest these enthusiasts drive us just as far astray in the opposite direction.

Granted that the "chunk of a tree" is a figure of speech, and that the speaker would be satisfied with a painted chunk, if it were so well painted that it seemed to have "the sap in it"; the fact remains that a chunk is not a play. The impression, the sketch, the incident, the episode, these have, of course, their legitimate place in the wide domain of art, but the place of honour must be assigned to that combination of these things which takes the form of a coherent story. There can be no objection to the exhibition of chunks of trees to audiences that derive pleasure from beholding them, but it is the business of the dramatist to present a landscape.

A play is essentially an artificial product. The stories of real life are disconnected at every turn. Their continuity is broken by all sorts of insignificant events and by the irruption of all kinds of irrelevant personages. Even the naturalists must admit that these distracting parentheses have to be eliminated. Life is departed from at the outset. In order to convey a coherent and intelligible impression of life, the actualities of existence have to be abandoned. Place an ordinary four-legged table upon the stage, and to the audience it will seem askew. Before it will present the appearance of an ordinary table, a couple of inches have to be taken off two of its legs. To make objects appear straight, they must deliberately be made crooked. Similarly,

there is "perspective" in the arrangement and writing of plays. A "chunk" of real life would resemble nothing on earth. An ordinary conversation would be futile. Incidents as they occur would be impracticable. In the drama, as in all the arts, the thing to be aimed at is not reality itself but the semblance of reality.

These, of course, are truisms, but they lead us a very long way. If the aim of the artist is the appearance of truth, it necessarily follows that every means is justifiable by which the appearance of truth is conveyed, and that those means are the best by which it is conveyed most vividly. Here at once is the justification of those situations, pictures, and points which it is becoming the fashion to disparage, but which have been employed by every dramatist who has yet written, and will be employed, I venture to predict, by every dramatist who has yet to write, to an extent in exact proportion to his capacity.

Whence has sprung the idea that the study of character is the first duty of the dramatist? I cannot accept the doctrine. The first duty of the dramatist is to do that in the theatre which cannot be done so effectually elsewhere. The study of character can be pursued with infinitely more elaboration and infinitely more convenience in a book. Of what advantage are the paraphernalia of the stage if they are to be used principally for the doing of something which can be better done in a volume? The first duty of the dramatist is to be dramatic; and the last duty of the dramatic critic is to sneer at the mechanism of the drama and to pooh-pooh the ingenuities of construction as unworthy of a "literary man." It is smart to compare them with the "cat's cradle" of the nursery, but is the comparison just? The "cat's cradle" serves no purpose, except so far as it is amusing in itself; but the mechanism of the drama serves the most important purposes of the dramatist. Everything in the world—the world itself—is based on mechanics. The earth goes round the sun before it does anything else. The very moods, emotions, and passions to which we are asked to devote our exclusive attention, are the outcome of certain precedent mechanical conditions. Was there ever a "cat's cradle" quite so ingenious and intricate as the human body? Was it puerile in nature to invent so elaborate a mechanism? And if it is not puerile in nature, why

is it puerile in the playwright? The truth seems clear enough. Any quantity of mechanism is justifiable, so long as it serves some purpose.

But we must go a step further. Mechanism is not only justifiable, but essential. Without some measure of it no drama could exist. And not mechanism only, but also some element has to be introduced by the dramatist which is not present, at any rate in precisely the same form or quantity, in real life. Pure gold cannot be wrought with any satisfaction or convenience—a certain quantity of alloy has to be added. Similarly, pure life will not make a play. Otherwise, existence would be full of little comedies, farces, and tragedies which might at once be represented on the stage. But it is not. Life is full of dramatic scenes, incidents, and episodes, but it never presents a complete play. The realists may contend that this is an argument why a complete play should never be written; but this contention, if it were sound, would long ago have annihilated art. A complete play gives pleasure to the spectator, for the very reason that it is not real life, but its essence, and presents him with something he cannot get except in the theatre; and if the play be a good one, that something will be a more vivid impression of the truth than any that can be gathered from the contemplation of isolated or confused realities.

The contempt which has lately been heaped upon the machinery of the drama has exercised a deplorable influence upon contemporary dramatic work. The ignominy which is attached to an elaborate and finished mechanical scheme has naturally conduced to the most clumsy and slatternly workmanship. Some of the plays which have been hailed as the most "literary" and artistic productions of recent years have contained characters which have no more connection with their story than so many interpolated entertainments by the Great Vance, and their "great moments" and most admired situations have been brought about through the agency of other characters who have no more business upon the scene than if they had been shot through a trap-door. On the other hand, such a play as *Lady Bountiful*, which is almost perfect in its *technique*, is dismissed with a few half-hearted compliments. That section of criticism which is capable of appreciating technical

excellence is, unfortunately, the very section which inclines to the opinion that such excellence is rather a fault. It is no reproach to the authors if they do not supply a neatness of execution for which there is no demand; but it will be sad if the prevailing epidemic of plays without words be succeeded by an epidemic of words without plays.

It is curious that, much as the drama is written about, it is only the serious drama that is seriously discussed. Most plays are designed with the sufficient and praiseworthy object of merely amusing the public. If the artificialities of the playwright's craft are permissible, and to some extent necessary, in the serious drama, there can be no possible objection to them in the domain of comedy and farce. Is the comedy of intrigue to be banished from the stage? Are the preposterous imbroglios of farce to be regarded as offences against art? Are the "two words" of explanation which would explode nine-tenths of stage misunderstandings about to be spoken, and is the curtain to fall on them for ever? Certainly not. Fortunately, the huge common-sense of the great uninstructed public is generally at hand to correct the cranks and vagaries of experts.

The new philosophers stand on much firmer ground when they protest against the narrow limits within which their immediate predecessors have sought to confine the playwright's art. For a generation our stage has been a mere doll's house. To every new play one test was applied. Was its moral tendency conventional? Was it in line with the child's picture-book? Was it in touch with the Sunday-school? One grain of truth was fatal. To hold the mirror up to nature was flat blasphemy against contemporary criticism. The fig-leaf of polite statuary has enveloped the whole figure of the dramatic Muse. Happily, the English stage is slowly but surely being emancipated from the thraldom of the happy ending and the so-called "sympathetic" story, in which everybody is actuated by logically "sufficient" motives, everybody's character is "consistent," and everybody's demeanour is "agreeable." Criticism is learning to sympathise with complex and erring and inconsistent humanity. The ideal dolls of the drama are being replaced by living, breathing men and women, made in that shape which was not good enough for the critics, but which is good enough for God.

On the whole, the New Criticism is to be warmly welcomed. Its errors are the excesses of reaction. The pendulum swings wildly before it settles down steadily to its work. Our latest critics are gifted, above all things, with an abundance of brains. These brains will ultimately teach them that their contempt for a "well-made play" is merely the cocksureness of youth which has not yet sown its intellectual wild oats; that their insistence upon an impossible and undesirable "originality" is only a new form of self-conceit; and that the strangely inconsistent demand put forward by some of them for the "literature" of the library on the boards of the playhouse is a demand for something which would be fatal to all sense of the "reality" they crave. When they have lived down the affectations of culture they will discover that a good "acting" play is "literature" in itself. The idea that a play cannot be considered literature unless it "reads well" seems to me untenable. I do not go so far as to say that if a play "reads well" it will "act" badly—though I think the probabilities are in that direction—but I deny that reading is an appropriate test. A play is written to be acted. The meaning of a good play can largely be conveyed by pantomime. The author has not only to provide opportunities for that pantomime but he has always to get out of its way. He must be most careful not to take those opportunities himself; they belong to the actors. If the author sets down in words everything the actor also expresses in pantomime, the result is redundancy, anti-climax, ineffectiveness, boredom. The author must deliberately leave openings, gaps, chasms; unlike the carpenter, he must never quite "join his flats." On the stage these omissions are essential; in the study they are distressing. His most moving scenes will often read bald, crude, and disjointed. Only the other day one of the acutest of our critics candidly confessed that when he read *Hedda Gabler* he could not even understand it; yet when he saw it on the stage it was as clear to him as crystal.

Who dares seriously to contend that this most exquisite art of writing only what is necessary and leaving unwritten what is surplusage, is not literature, however the result may "read"? It is literature in its most difficult form. To apply the test of

the library to that which is intended for the stage is to apply a test which can prove nothing. A man does not smell with his eyes, or see with his nose.

If some of our over-educated censors were restricted to the vocabulary of conversation, they could not express themselves. They would be helpless without words of six syllables, and continual allusions which to ordinary folk suggest nothing but the schoolmaster and the birch-rod. These things are not literature. But tell an interesting or amusing story through the medium of dialogues which appear to be the natural conversation of human beings—that *is* literature. How many a sound and stirring play has held an audience firmly in its grasp, until—thud! down comes a "chunk" of "literature," like a brickbat! An excellent little essay, a clever leaderette, or (as in *A Doll's House* and *An Enemy of Society*) an utterly impossible academical discussion or a ponderous political lecture. Away goes the play, away go the players, and we see nothing but a dismal library and an old professor, in blue spectacles, with a wet towel round his head. "Literature" this may be; drama it is not.

But the New Criticism is yet in its infancy. It will outgrow its infantile disorders. Presently it will be a little ashamed of its sesquipedalian terminology, and it will learn to express itself in the English language. Finally, it will enlarge the boundaries of its sympathies, and not give exclusively to Ibsen what was meant for the drama. There is a public for every class of theatrical entertainment, from the tragedy of horror to the farce of misunderstandings, and all of them are art of a sort, and must ultimately be recognised and appreciated by the New Criticism. Meanwhile, the net result of its admirable labours will be to give to the playwrights a greater elasticity, a wider scope, a larger opportunity than they have yet enjoyed; and in the outcome it will be manifest that even the serious drama of reality is never so truly real and so deeply impressive as when the soul of its subject is clothed in the flesh of a symmetrical and "well-made" play.

In conclusion, let me drop the mask of the theoretical dramatist, which ill becomes me, and in my proper person say one word for the poor, workaday playwright. Gentlemen, whether you belong